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President's Address

ON

CLIMATE AND HEALTH

BY

S. WATSON SMITH, M.D., F.R.C.P.Ed., M.R.C.P.Lond.

HONORARY PHYSICIAN, ROYAL VICTORIA AND WEST HANTS HOSPITAL, BOURNEMOUTH

My first words must be spoken to my colleagues, to give them my most humble and hearty thanks for the very great honour which they have this day shown me by bestowing on me, though unworthy, the highest dignity in their gift—that of President of the British Medical Association. My next pleasant duty is to offer a most cordial welcome to Bournemouth to all members and visitors in the name of the community, and more especially on behalf of your hosts, the members of the Bournemouth Division, and in the name of the whole body of medical men in this town and neighbourhood, and of the civic authorities of this county borough. All have helped unsparingly so that this meeting may prove as attractive and interesting as it will be illustrative of the liberal hospitality and eminence of Bournemouth; and for this whole-hearted and generous support I would, at the outset, voice the gratitude, not only of the Division, but of the Association.

We have in our midst colleagues from every part of these Islands, and delegates and visitors from all quarters of the British Empire, to whom, as to our distinguished guests from other countries, we would stretch forth the right hand of fellowship. Members of the great priesthood of Medicine, sons of Aesculapius, grandsons of Apollo, it is for us, hand in hand, strenuously to carry on the good work begun, built up, and strengthened, age by age, by our predecessors, who established a community of interests whereby life and work are dedicated to the art and science of Medicine and Surgery, the healing and relief of sick and suffering humanity ever being the first and constant aim of all followers of Galen and of Luke, the beloved physician. That this meeting may prove valuable in scientific discussion, and enjoyable by reason of the rest, change, and entertainment hereby afforded, and that each of you may return to his "lonely furrow," refreshed in body and mind, with a store of happy memories of old comradeship revived and new friendships made, is our most earnest wish.

Introductory Remarks

In 1891 (from July 28th to 31st), forty-three years ago, the fifty-ninth Annual Meeting was held in Bournemouth under the presidency of John Roberts Thomson, M.D.Ed., F.R.C.P., a Freeman of this county borough, whose eminent services to the Association are gratefully remembered. His name is indelibly impressed upon the hospital and other benevolent institutions of this town, in which he wielded a great influence for good.

Nearly half a century has passed since then, but our minds are still occupied by questions akin to those raised by Dr. Roberts Thomson in his opening address, which he devoted to topics of local and general interest to the profession and to the State, bringing forward important health problems for public consideration. Although the awakening of the conscience of the State to a sense of its duties concerning the public health has, naturally, been gradual, if not slow, matters have now reached a stage when local authorities are in process of developing the national hospital scheme for providing for the sick and disabled of all classes. Such schemes, which have a national outlook, must, in the future, continue to take the direction of the prevention of disability and disease by compelling better living and working conditions and environment as well as that of their treatment and cure; and should first take into consideration the views and demands of the medical profession, the members of which, above all sections of the community, know the real needs of the health situation, whether local or national.

We know that now and in the future we can speak with no uncertain authority through the British Medical Association, which ought to be trusted to hold the scales fairly and impartially between the medical profession and the great public which it serves. In the century of its existence the ever-widening responsibility and the beneficent work of the Association stand in bold relief, an imperishable record, with the name of one illustrious member after another as milestones to mark the direction which the policy and work have taken. It is important now that we should continue, like the realists we are, to take the broad view as to the means of promoting the public health, and to see things actually as they are in an objective and scientific spirit as facts rather than as ideals. Accordingly, I propose to address you upon a subject which, always of interest to the profession, has become more so because it is capable of inclusion in the scheme of things as a practical, effective means of securing speedier recovery in many conditions of sickness, and of maintaining a higher general standard of health—namely, *Climate in its influence upon Health*.

This subject is as old as the art of medicine itself, having its origin in the dim, distant past, when the

practice of medicine was still in the hands of priests and religious orders. It has renewed importance, however, now that medical science can the better gauge the greater value of natural processes and environment in preventive and curative treatment. In talking of climate we shall not now define the term in the Johnsonian fashion as "a space upon the surface of the earth, measured from the equator to the polar circles"; or in the sense used by Sir Thomas Browne, when he wrote (1643) that he was born in the eighth climate; or again, in the popular meaning, as a region differing from another by reason of the temperature of the air. We shall define it in a broader sense, the meaning of the word, modified by time and necessity, indicating all the solar and terrestrial factors and influences which affect animal and vegetable life, including sunlight, atmospheric temperature, humidity and pressure, movement of the air, and prevailing winds—the factors which make our climate what it is; and, whilst including airs, also embracing waters and places. My remarks will also refer to the history of medical climatology and hydrology generally, and to the advisability of a more frequent use of British spas and health resorts.

In the choice of this subject it seemed to me that Bournemouth—fair as it is and so handsomely endowed by nature with beauty, grace, and charm—was a fitting place from which to speak. Alone of its kind and in the front rank of coastal health resorts, this area can claim to have restored health to invalids without number, and to have afforded rest and recreation for the many. Here, in Shakespeare's words, "The clymat's delicate, the ayre most sweet."

History of Medical Climatology

It is generally believed that, in the dawn of civilization, from the Middle East and from the shores of the Mediterranean, migrations of a people, mainly pastoral, took place in consequence of drought, a changed climate causing insufficient sustenance for tribes and flocks; and that thus knowledge spread eastward to China (2300 B.C.)—where even to-day a superstitious belief survives in the malign effects of climatic influences (Fung-Shui, literally wind and water)—to Libya and Egypt, whence to Greece, whither many Egyptian ideas made their way.

In Greece medical knowledge and practice flourished, chiefly in the Cnidos Peninsula and in Rhodes, the "rose-covered" island of the Aegean, where climate and physical influences seem to have been specially studied by the Greek philosophers; and in Cos and at Epidaurus, where the cult of Asklepios first appears. At these places health temples were founded—originally sacred shrines controlled by priests, their sites being chosen, not only from proximity to wells or hot springs, but also with a view to climatic salubrity. At these temples patients would drink the waters and bathe; the sick would flock thither to be treated by the presiding priests, just as cure and relief are now sought by pilgrimage to a holy well. The extent to which such "spas" were used is shown by the provision for entertainment at the health temple of Epidaurus of an open-air theatre capable of accommodating 12,000, and of a stadium for 20,000, spectators.

Pausanias, in his *Description of Greece*, mentions that whilst visiting Epidaurus he met a traveller from Sidon who declared his opinion that Apollo was the sunshine and Asklepios, his son, the fresh air. His worship as the god of healing was widely spread among the Greeks. His powers included even that of raising the dead. In his honour temples were built at many places, the most notable, that of Epidaurus, becoming the traditional seat of the cultus of the god, originally probably a form of sun-worship.

A salutary belief underlay the religion of Asklepios, that the maladies of the soul could be reached through the subtle gateways of the body; that, in the words of Walter Pater, "the body became but an handmaid of the soul." Thus the Greeks strove for perfect physical development, esteemed even above learning, their artists and philosophers employing their rare talents in the production of beauty and the search for truth. This idea of a *select* humanity was revealed in the Stoic plan of a world of the wise only, and in later Christian times found its expression in the conception of the Church as the only pathway to salvation for the human race.

The earliest surviving treatise on climatology is the chapter "Of Airs, Waters and Places" in the works of the immortal Hippocrates (460–370 B.C.), Father of Medicine, in which he deals with many questions of importance in public hygiene, giving numerous incidental references to the effects of weather and climate, winds, seasons, and localities. At this period Greek art and learning were at their zenith, instructing, edifying, and refining the world as they still ought to be doing. Hippocrates showed an extraordinary grasp of matters relating not only to climate and its causes, but also to the art of medicine; so much so that he founded a system of physic which embraced the results of actual observation in place of the superstition and hypothesis till then obtaining, and dominated medical practice for many centuries.

In Rome, Scipio Africanus (died 129 B.C.) was one of the first to order the construction of baths. Later, in A.D. 21, thermae were opened by Vipsanius Agrippa, son-in-law of Augustus and grandfather of Caligula. It became customary to build a large bath over a natural hot spring, attaching to it several smaller baths. The neighbourhood of these became fashionable watering-places. Authors like Petronius and Martial throw much light on Roman bathing. The latter, taking note of the smallest details, describes a visit to the public and private baths, each of which had its own regular customers. He watches the masseurs manipulating their patients, and a wily thief awaiting the right opportunity of pilfering from a bather's robe. It was usual for special bathing times to be allotted according to the rank and social status of the bather. Occasionally a bath would be used in common by the sexes; but such mixed bathing was forbidden by Trajan and by his successor Hadrian. In the reign of Justinian (A.D. 527–565), builder of St. Sophia, partitions were put up to separate the Byzantine sexes. During the Roman occupation of Britain spas and health resorts were founded, some of which, like Bath, "remain unto this day." London also had its medicinal wells and baths, the latter being early established there by the Romans.

In the obscure ages which succeeded the fall of the Western Empire the use of mineral springs dwindled, but after the Crusades (A.D. 1096–1272) warm baths again became fashionable, some associated with saints developing into centres of pilgrimage. During the fifteenth century the Greeks fled from fallen Constantinople, leaving their baths behind them for its conquerors, but taking with them into Italy their literature and learning, so that in the sixteenth century Hippocrates's work was again the example to follow in the practice of medicine.

At length the immortal Harvey, by his work *De Motu Cordis* (1628), a record of investigation made by the experimental method, overturned the whole theory of the ancients, founding principles and the practice of physic on the scientific basis whereon they now stand. Thomas Sydenham (1675), Father of Clinical Medicine, "a rare man," laid great stress upon the seasonal variations of disease and the relation of disease-distribution to latitude.

At the end of the eighteenth and the beginning of the nineteenth century, the climatic dangers of travel were

demonstrated by the failure and destruction of the two expeditions into Africa of Mungo Park, himself a surgeon (see his *Travels*). But since the last few years of the nineteenth century a great improvement has taken place in tropical hygiene and sanitation. Many deadly climatic diseases are now known to be of parasitic origin, the constant warm climates of tropical regions rendering them the best breeding-ground for the organisms causing such diseases. Due to the direct effect of climate upon the parasites or their human or extra-human hosts, these diseases are fortunately absent from temperate and cold latitudes.

The second half of the nineteenth century was the scientific age, noted for its advances in medicine and surgery. Consequently, in the present century, many of the worst areas of the earth, where so many of our fellow-countrymen had been "climate-beaten" in the past, have been rendered wholesome and habitable for all races of mankind by pioneer work, done often under great risk to health and life, by colleagues of the profession. Such results have been brought about by the application of methods evolved by the original work of men like Patrick Manson, David Bruce, Ronald Ross, Andrew Balfour, and countless others, true pioneers of Empire, many of whom had passed on, forgotten by their own times, unhonoured and unsung; they constitute a splendid record of self-sacrificing labour on behalf of the civilization and well-being of mankind, and afford a demonstration of that spirit and genius, the proud heritage and hall-mark of the profession of medicine.

In these days we seem to live in an age of transition, when each man's scientific knowledge and opportunities are expanding and increasing well-nigh beyond belief. Yet we find the same riddles presenting themselves for solution as in previous ages, merely changed in their scientific features. There must always be a demand for proof: a constant testing of our assumptions, investigations, and conclusions, to prove them true or false, and accordingly to receive or abandon them. The doctrines of science, many of which are now admittedly beyond dispute, at first confined to the scattered few, have been gradually gaining general acceptance. By the processes of trial and search for error they are constantly being clarified and corrected. Science, indeed, by its revelation of the established order of things, shares common ground with Religion.

Of Airs

"It is no wonder," wrote Clarendon (1647), "if England is generally thought secure, with the advantage of its own climate." There are those, indeed, who believe climate to be the most influential of the natural causes controlling the destinies of mankind. The observations of centuries on climate in its relation to the treatment of disease amply prove it to be one of the most valuable resources of the physician. The study of its phenomena, therefore—that is climatology—should have a corresponding value and importance.

Apart from secondary causes, biologically concerned, such as temperature, humidity, altitude, winds, soils, etc., the chief factor governing climate would seem to be insolation. The world-distribution of sunlight, and the resulting variations of temperature, appear to determine the differences between coastal, plain, and hill climates; as also such matters as diversity of colour types (the pale Eskimo, the fair-haired Scandinavian, the bronzed Arab, and the dusky negro of the Equator).

That, under Providence, the habitable globe depends for its existence on the sun, is a truism. The importance of sunlight to life and health cannot be over-estimated; indeed, it has become the fashion to assess the climatic value of a locality by the amount and intensity of the ultra-violet light which it may receive in the course of the year. It is desirable, however, to impress upon the community that, whilst the sun is our greatest natural friend, he can, if regarded with disrespect or insolence (*ὕβρις*), become an equally potent foe. Here again it is the duty of the profession to counsel that moderation (the *σωφροσύνη—τὸ μηδὲν ἄγαν* of the Greeks) essential to the successful practice of any theory.

For an excessive exposure to light-rays, whether natural or artificial, not only entails fatigue and exhaustion, but also produces early degeneration of the skin, such as may be seen in sailors or in those who have lived for many years under tropical skies. The external ears, the lower half of the face, and the backs of the hands degenerate so as to exhibit a skin become thin, atrophied, and pigmented, upon which are grafted warty growths which, later, may assume a malignant form. Because of immediate and remote risks of over-radiation, caution should be advised in the use of the sun-bath and of artificial-light-baths. But, properly and prudently used, sunlight is of inestimable value. From the point of view of the man of business alone it has been proved that daylight and industrial efficiency are directly proportional, the one measuring the other. Such efficiency may also be encouraged by the creation of a so-called artificial climate, mechanically controlled as to temperature, humidity, and movement of air, promoting ventilation indoors, which should be applicable with advantage to the modern hospital or school, and to places of business or amusement.

But the sun is the ruler of all climates and determines temperature, the lessened or increased humidity of which has been used as a practical means of classifying climate as bracing and tonic, or sedative and relaxing; the former including busy places providing entertainment and excitement suitable for those needing bracing-up, an escape from routine-business, and change from sedentary work; the latter qualifying resorts favourable to rest and tranquillity, beneficial in nervous complaints, such as insomnia, in high blood pressure, or in disorders of the heart and circulation. There are, however, in the British Isles, all gradations between the two extremes. The term "relaxing," in reference to climate, I use in no derogatory sense such as enervating, but as synonymous with "sedative," indicating the quiet and repose desirable for the relief of these and other conditions of ill-health, and the maladies of old age, compelling a slowing-down of the pace, and encouraging restful days and nights, and a reduced metabolic rate.

The ignorance of the majority as to the climate, and so the health resort, best suited for them is notorious. A careful study of an invalid's general state of health and mental traits should be made before recommending the suitable place. Often a climate with frequent but moderate variations will prove beneficial, the more so if combined with a regular rhythm of rest, sleep, open-air exercise, and a properly supervised and dispensed diet; beautiful surroundings, changes of scene and of manner of life, all helping to encourage the invalid.

As our knowledge of applied climatology increases it will be found to be more and more of value as a factor in the successful treatment and diminution, or even elimination, of disease, the results of which, under differing climatic conditions in various parts of the world, and especially of the British Isles and Empire, will thus be tabulated and mapped out.

Of Waters

"To Epsom by eight o'clock," wrote Samuel Pepys, "to the well; where much company, and I drank the water: they did not, but I did drink four pints." From of old, the sick have benefited by medicinal water drinking

and bathing, the science of which was early to the fore in practical therapeusis. Interest in the subject has waxed and waned down the centuries, but, with widening knowledge of biochemistry, it should increase in importance.

Waters and baths are to be looked upon as factors accessory to climate, over which they may have a dominating therapeutic influence. Spas frequently specialize in the treatment of particular ailments, and should be classified not only according to type of climate but also upon their therapeutic indications. Mineral waters have their pharmacological action by virtue of their water-content, and of the various contained chemical and physical properties. Some have radio-activity, a property of high value, which is being increasingly utilized in treatment ; a quality, however, so evanescent as to be speedily dissipated on exposure, so that such water must be used immediately when drawn.

Although from a medical standpoint doubt has been cast upon the value of the chemical properties of spa waters, this doubt has been dispelled with a more exact knowledge of biochemistry, which has led to a correct interpretation of their action, and so of their medical use. Up to the middle of the nineteenth century, when medical climatology again came into prominence, spa practice was purely empirical. Now every resort with a claim to therapeutic value should develop its own resources along scientific lines. For, in the words of Fortescue Fox, " Each spa has its own individuality," which should be fostered and guided aright by utility in treatment and by a reasonable limitation of its reputed curative value, so that a wise choice may be made by a physician for the benefit of his patient. A family resemblance among spas as to their medical value should not too lightly be taken for granted, for how often has it not been repeated that we do not treat diseases, but those who suffer from them ; and so with spas as places of treatment, the aim of which should be to enhance and profit by the climatic and other advantages of the place. *Pars medicinae adjuvare non obstare Naturam !*

Eliminatory Action of Spa Waters

Whatever the chemistry of medicinal waters their effects are several and complex. The eliminatory action, as carried out by Guelpa's abstinence-purgative and distoxicative method, described by him at the Annual Meeting in 1910, has proved of much value in certain autotoxic conditions needing alimentary rest and better excretion. Examples are to be found in over-alimentation and in any condition of auto-intoxication. The correction of faulty elimination and the " good-riddance " of waste products by starvation, coupled with the action of waters and baths upon the emunctories, is recognized as a chief method of treatment at all spas. It is of such proved value that it should not be lost sight of.

Replenary Action

There is another action of cardinal importance in health as well as in disease—namely, the replenary action ; the regular replenishment of the circulation is a vital necessity, and the normal healthy intake of water should amount to three pints each day. Although volume of blood cannot yet be measured clinically, we know from observation that there is substantial variation in individual fluid capacity and tissue demand. Children of tender years, too young to help themselves, may, and often do, have so small a daily allowance as to suffer fluid starvation. In such we have seen a condition of collapse occur with empty surface vessels, distant, weak heart sounds, cyanosis, and sighing breathing, where quick recovery occurred with the filling up of vessels. Similarly, the elderly may drink too little ; but the fault of taking insufficient liquid during the twenty-four hours is more common among women, the resulting dehydration of tissue disposing them to calculous disease. Whereas dehydration, then, is harmful to the healthy, it has much direr consequences in illness.

Biochemical Action

This action of medicinal waters is perhaps of greater moment than hitherto generally believed. Calcium, iodine, bromine, iron, magnesia, salines, sulphur—all occur in readily assimilable form as a dilute solution of electrolyte in different spa waters, thereby providing a means of restoring to the individual what has been lost by dysfunction and disease ; a replacement-therapy to stimulate chemical activity and repair tissue. Of these, the last-mentioned, sulphur, is perhaps less curative than has generally been thought ; the very mention of it may be a reason for warning a particular case away from a favourite spa. It is often said that sulphur is valuable in skin diseases, but it is seldom found to be so in practice ; in fact, it is harmful in some. Indeed, the only diseases where it is found useful are parasitic, or belong to the hydroa group ; or, perhaps, are certain persisting dermatoses where a few applications are found of advantage in stimulating the eruption towards an effort at healing. But the prevalence of the parasitic class of diseases having much diminished with the discarding of the wig and with greater personal cleanliness, sulphur is much less in demand than formerly. In rheumatoid arthritis, however, being deficient in the liver, sulphur is found to be useful, exhibited in small doses.

Tonic Action

Spa waters, whether taken by the mouth or by bathing, have a tonic action ; they stimulate the skin response to heat and cold, lessen heart load, improve peripheral blood circulation, and stabilize the heat-regulating mechanism, likewise improving general nervous tone, stimulating oxidization and general metabolism. The thermal action of all baths is exerted through the skin. Their effect upon the peripheral circulation and upon arterial tension is well known. The serious condition of so-called thermal debility is the real danger of bath treatment at spas, and is induced, especially in the delicate, sooner or later, by too frequent hot baths, as by hot climates. Thus the need arises for applying cold to the skin after hot baths to produce a reaction, which should, of course, be observed and encouraged. Particular disorders are recognized as especially amenable to bath treatment, if used in the early stages of disease, when as yet there is only functional derangement.

Of Places

When, a hundred years ago, England was still an agricultural country, holidays were few and short, and transport laborious. Since then the rural population to a large extent, much to be regretted, has migrated to the towns, where it requires cheap transport and changes of air and place to counteract intensive living, and to afford relaxation and rest away from the hurries of business and the trammels of social duties. In his *Anatomy of Melancholy* Robert Burton writes that " he that loves his health if his ability will give him leave must often shift places, and make choice of such as are wholesome, pleasant, and convenient . . . and generally for health to wander up and down." This is true enough to-day, when the restless spirit of the age must move about. The holiday rush to the sea is the tonic treatment for the masses, beginning at a time of year when health is at its lowest ebb after a winter's work.

Insufficient rest is a very fruitful source of premature collapse, so that a sedative environment has to be sought for escape from the nervous strain of modern life, such as can be found in the South Coast resorts, and on the plains, inland, away from valleys. There are many persons, however, with nervous system and cardiovascular and kidney disease, who do better in the familiar comfort of their own homes, in the cooler, bracing atmosphere of our temperate climate ; but the milder climates inland or on the South Coast will bring relief to those suffering from conditions such as essential arterial supertension, insomnia, or debility consequent upon the nervous strains and stresses of present-day life. The British Isles abound in bracing climates on the East and West Coasts and in the inland hills. The South Coast provides many sedative resorts where, to quote Cobbett, " there are as fine days as ever came out of the heavens."

In convalescence, his native place and air will often prove the most beneficial for a patient, because he is inured to them, *acclimatized*. Men are often misplaced, compelled to live unhappily in unsuitable environment, and so suffer accordingly ; for survival can only come by adaptation to environment. Like disease, health is never static, but varies and differs in its manifestations from day to day, even from hour to hour. It takes a man, especially if of poor tissue and inferior physique, all his care to be able to maintain an efficient tissue-functioning during an average span of life.

With advancing age, when " the years draw nigh, when thou shalt say, I have no pleasure in them," it is wise to take an interest in Nature, whose simple ways thus acquire a charm for us hitherto, maybe, unnoticed, and the lovely villages and backwaters of the countryside " bring the soul nearer to the divine source of all being." The temperature and changeable climate of the British Isles have in the past bred a vigorous, hardy race, able to face life in almost any part of the world. This must be considered one of the chief underlying causes of the formation and successful growth of the British Empire, fostered and encouraged by the great Queen in the nineteenth century.

At the present time the fashionable rest cure appears to be the sea-cruise holiday in the sun, offering the completest rest possible for the healthy man, his whole mental outlook changing, as the waves carry him away for many days from shore conditions. For the healthy and vigorous nothing can be better ; but for the invalid the discomforts of rough weather and sea-sickness, with the possibility of being " cabin'd, cribb'd, confined " in consequence, render such cruises of very questionable benefit.

Britain, being a most favoured land as to spas and health resorts, it is now generally understood in the profession that there is seldom, if ever, medical necessity to winter abroad, unless it be to obtain by altitude, or by dry or sea air, a suitable climate for the tuberculous or asthmatic. Moreover, the discomforts of travel, change of language and food, absence of home comforts and friends (to say nothing of the less satisfactory sanitary arrangements prevailing on the Continent), can be more easily faced, nay converted into sources of amusement, by the young, high-spirited, and healthy, than by the elderly or invalid.

On the other hand (and who, by the way, does not know the pleasure and excitement in the mere anticipation and planning of travel?), and in spite of Horace's famous dictum, *Caelum, non animum mutant, qui trans mare currunt*, there is no doubt that Continental or foreign travel, giving a complete change, may often be beneficial in cases of mental strain and nervous trouble ; producing, as it does, a detachment from insular home prejudices, a broadening of outlook by unfamiliar scenes, manners, and customs, and encouraging an interchange of visits and courtesies from country to country.

Concluding Remarks

Whilst the duty, too often neglected, of increasing the amenities and preserving the beauties of health resorts and spas must primarily belong to public authorities, the scientific, sane, and right guidance of their development should naturally be the part of an educated medical profession. Both locally and generally the whole subject ought to be surveyed, reviewed, and tabulated. Such places are a national asset ; the increase of their value to the national health should therefore be the concern of the State and of public bodies to support and encourage. The medical men on the spot, with their experience and local knowledge, must inevitably be the advisers as to type of patient and disease to be benefited and relieved by the resources available at the place in question ; and so should have it in their power to increase and improve the part played by our health resorts in the life of the nation.

Medicinal springs and baths should be under a public control, ensuring regular chemical analyses, purity, ease of access to the waters, and the circulation of accurate information available alike for rich and poor, for doctor or patient, detailing such accessory matters as climate, environment, endowment of the place with natural beauties, and its mental and bodily advantages: in a word, the individuality of the neighbourhood, *genius loci*. At these health resorts the public is demanding additional methods of treatment, including all manner of baths. Besides providing medicinal waters and baths, these resorts should offer a wide range of electrical, physical, and other external accessory means and methods for the re-education of body functions and of structures such as joints and muscles. So that an up-to-date watering-place, wishing to prosper, will do well not to be deficient in these respects or in available advice as to diet and mode of life best suited to the particular climate or malady.

The average hotel or boarding-house, no doubt, prefers catering for the healthy rather than for the sick. But the comfort and well-being of the latter are essential for the fair reputation or continued prosperity of any place calling itself a *health* resort, and could be fostered and maintained by a varied improvement of facilities for attendance and for the provision of various special diets. An admirable plan would include the provision in hotels catering for invalids of one or more State-registered nurses, responsible to the patient and his medical adviser, and to them only ; an invalid annexe would be another device for the attraction and lodging of visitors not fitted for the ordinary daily routine of the healthy. Patients would be ambulatory or convalescent, not confined to bed or in need of any special medical attention.

There is much need for an increase at health resorts, in the number of convalescent homes, suited to the means of all sections of the community, not excluding the overburdened upper and middle classes. Such institutions, municipally or privately owned, administered perhaps under health insurance schemes, might be, so to speak, territorial or regional, used near a patient's home in finer months, or in the south or west in winter. Their cost would amply be repaid by increased efficiency in work of all descriptions, and by gradual elimination of the later stages of such maladies as those of the rheumatic or fibrositic type, which cause so much disablement with loss of time and wage. It is plain, then, that our health resorts are in need of necessary, but sympathetic, reorganization and improvement, much of which could be effected by a healthy rivalry in catering for the requirements of the jaded and sick, and by competition in the provision of the things that matter.

Among the things that matter vitally are those of the mind, far more neglected in England than on the Continent by poorer folk. We must not neglect and starve the mind, while lavishly catering for the body. Our ideal must be the *mens sana in corpore sano* ; for the latter is virtually impossible without the former. Consequently our health resorts should be equipped for mental as well as for corporal benefit. The provision of libraries, art galleries, and museums is as necessary, if not so patently urgent, as that of convalescent homes and baths, for the ultimate attainment of our goal ; for are not the former as much the sanatoria of the mind as the latter are those of the body? A day may well come when the healing art will include advice as to suitable studies in art, science, and literature as mental tonics.

The advantages of our health resorts are not infrequently lost to the sick through doubt, indifference, or scepticism as to their real value ; by bad and selfish building development ; by destruction of natural beauty ; by ugly as opposed to reasonable and beautiful forms of advertisement ; by too much noise ; or by a cost of living which it should be the aim of all sensible government to reduce. Signs are not wanting, however, of good efforts to lay the foundations of a better state of things by a well-directed campaign of education as to the great advantages of British spas and resorts, not only to ourselves in these islands and to our kinsfolk abroad, but also to our neighbours on the continents of Europe and America.

Let us hope that the day will dawn when we shall be able *in propria persona* to recite the words of Alexander Pope in his *Essay on Man* :

> " For me, health gushes from a thousand springs ;
> Seas roll to waft me, suns to light me rise ;
> My foot-stool Earth, my canopy the skies."

FOCAL INFECTION AS A PROBLEM FOR THE LARYNGOLOGIST *

BY

A. J. M. WRIGHT, M.B., F.R.C.S.

SURGEON, NOSE AND THROAT DEPARTMENT, BRISTOL GENERAL HOSPITAL

I regard this subject as being peculiarly suitable for a discussion at such a meeting as this, in that our knowledge is at present fragmentary and in that such progress as has been made has been based rather on clinical observation than on laboratory research. I think it probable that you all have some sort of conception as to what you individually mean by focal infection, and I also imagine that these conceptions would differ one from the other. It would therefore seem necessary, since I have to open this discussion, for me to try and explain what picture is presented to me by this term. By " focal infection " I conceive the existence of a local inflammatory lesion or lesions producing pathological changes in organs or tissues of the body, such changes not being, as far as we can judge, due to the direct spread by continuity of the primary focal disease. I could perhaps clarify what I mean by giving a concrete example. Given a maxillary antral infection as the primary focus, I should regard a complicating conjunctivitis as being due to a direct spread of infection via the lachrymal apparatus, and therefore not as an example of focal infection. On the other hand, I should regard an iritis as being such a result.

In the great majority of cases we are unaware of the method by which the secondary changes are produced from a primary focal infection. In some cases, no doubt, there is a direct transfer of organisms via the blood stream from the primary focus, as is seen in the case of a gonococcal infection of a joint resulting from a primary lesion in the urethra. The clinical picture, however, in many cases seems to render it unlikely that this is the universal explanation, and we are therefore compelled to invoke the idea of the transfer of toxic products resulting from the activity of the organisms in the primary lesion. The picture of focal infection is further confused by the existence of infinite variations of sensitiveness to the effects of organisms or their products, such variations in sensitiveness being either inborn or acquired. I am aware that I have offered an imperfect definition, but the fact that our knowledge is at present imperfect adds enormously to the interest of the subject. As a result of a somewhat close clinical study extending now over many years I am myself becoming more and more impressed by its importance, particularly in the sphere of chronic disease.

* Read in opening a discussion in the Section of Oto-rhino-laryngology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

The Problem for the Laryngologist

In reviewing the possible sites for a focus of infection one finds that a considerable proportion of them occur in the domain of the laryngologist. The reasons for this are fairly evident. The skin is, as a whole, resistant to infections, and such infections, when present, do not tend to produce secondary results. The more usual site of infection is the lining of the food passages and upper air passages, and more particularly perhaps the aggregations of lymphoid tissues in these regions. When, therefore, we have taken our share, there is left for others, for practical purposes, the intestinal and genito-urinary tracts. The domain of the dental surgeon marches so closely with ours that, if we carry out our work with any degree of thoroughness, we must inevitably review his territory.

The problem for the laryngologist is, as I see it, twofold. He may, on the one hand, have to initiate the suggestion of a focus of infection in cases in which such an idea has not been thought of, and, on the other hand, when such an idea is put to him, he must try to decide whether such a focus is present and what degree of importance it assumes in the particular case.

It seems to me that this discussion can also be usefully employed in an interchange of our clinical experience as to how far, with our present knowledge, we can decide whether a focus of infection is present, and, secondly, as to how far the treatment of such a focus has resulted in improvement in the secondary lesions. It is along this path of clinical research that our knowledge, and therefore our practice, is likely to improve.

It would be well to consider, in turn, the various possible sites for the primary focus.

Nasal Infections

My experience has led me to join the school in which nasal infections, particularly those of the accessory sinuses, are only to be regarded as of constitutional importance when they are manifest—that is, when there is a definite infective lesion which can be recognized by routine methods of diagnosis. By this I do not mean to imply that there are not many cases of individuals who have a chronic infective focus, say in one antrum, but who do not appreciate the fact through having become so used to their symptoms that they regard them as the normal state of affairs.

Chronic antral infection, particularly if of dental origin, is the type of nasal sinus infection which most frequently

presents the picture of focal infection, the secondary results, as a rule, appearing as a chronic fibrositis or arthritis. In addition, changes in the nervous system do, I believe, sometimes result, and some cases of nerve deafness and optic nerve defects can be explained by such a focus. The type of chronic nasal pansinusitis accompanied by hypertrophic changes with polypi very rarely acts as an infective focus.

Dental Infections

The results produced are similar to those which I have just enumerated as following a chronic antral infection. In considering infection in the mouth, I believe that more importance is to be attached to one dead tooth with an apical infection than to widespread pyorrhoea, presumably owing to the fact that the former is a closed focus and therefore more prone to discharge its products into the blood stream.

Tonsillar Infections

These, you will agree, present the greatest problem of all. For some reason the faucial tonsils seem to be much more usually the seat of a focus of infection than either the nasopharyngeal or lingual tonsils. In addition, the picture of focal infection results from a primary tonsillar disease more often than from disease in any other site in the body. The tonsils seem to have a particularly intimate association with the general vascular and lymphatic systems, and it is, no doubt, their function to absorb samples of the infections in our environment, presumably with the object of establishing immunity. Under civilized conditions, in which opportunities for gross infection abound, such as in the modern cinema, this lymphoid protective machinery seems to break down and become chronically infected, and, by introducing products from such infection into the body to an excessive degree, to produce serious damage to the organism. As a result of a chronic focus in the faucial tonsils there can, I believe, be produced chronic lesions in the skin, joints, heart, kidneys, nervous system, and organs of special sense.

It is in diagnosis that the tonsils present their greatest problem. How can we decide when infection is present? Can the bacteriologist help us? Must we depend on the clinical history, which I believe to be of very great importance, as not infrequently a history of slight recurrent sore throats can be obtained? How far can examination of the tonsils themselves help? Is hyperaemia of the anterior faucial pillar a helpful sign? Is the presence of cheesy secretion in the crypts of any importance? And how far can compression of the tonsils or the application of suction to them help in diagnosis? An interchange of views on these points would, I think, be of considerable value.

The Ears

The picture presented by a chronic infection in the middle ear is, I believe, most commonly one of an individual showing the general signs of a chronic toxaemia, such as some degree of anaemia, lassitude, etc., but without, as a rule, the typical picture of definite secondary changes in the joints or other parts of the body.

Having thus briefly considered the possible foci of infection in the domain of the laryngologist, I should like to consider the other side of the picture from this point of view. Is there any lesion of the nose, throat, or ear which can be regarded as a secondary result of such an infection? We have, I believe, in some cases of nerve or perceptive deafness such an example. I am becoming increasingly convinced that some of these cases are to be explained as resulting from the toxic effects of a focus of infection. To illustrate this, I should like to quote an example: A male, aged 52, was first seen by myself twenty-one years ago, and has been seen at odd intervals ever since. His hearing during the last ten years had gradually depreciated owing to a nerve defect. Some eighteen months ago I suggested that he should have his mouth, which was obviously infected, put in order. I did not see him again until recently, when, to my surprise, I found that his hearing had recovered to a degree which brought it back to what it had been some ten years previously. Apart from the removal of his infected teeth, I discovered no other possible factor which could have produced this improvement.

Some Difficulties and Mistakes

As a final contribution to this discussion I should like to relate some of the difficulties and mistakes which are likely to be experienced in applying the principle of focal infection to practice.

1. *The Primary Focus may be Difficult to Detect.*—This state of affairs is most often met with in connexion with a tonsillar focus. As an example of such a case in which serious secondary results have followed a barely discoverable infective focus, I cannot do better than quote the following. A woman, aged 32, had suffered for some months from a pustular eruption on the face. When first seen over two years ago she gave a history of progressive oedema of a few weeks' standing, the urine being solid with albumin. Careful investigation of the medical history disclosed nothing beyond a vague history of occasional sore throats, in no case sufficiently severe to lay the patient up. Superficial examination of the pharynx revealed nothing abnormal, but retraction of the anterior pillars disclosed small and somewhat unpleasant-looking tonsils. Removal of these has resulted in complete resolution of both the nephritis and the dermatitis.

2. *A Mistaken Focus.*—In view of what has just been said it is not surprising that difficulty often occurs in deciding which of two or more possible foci is the guilty one. For instance, I regard the following case as an example of such a mistake of my own. The patient, a man aged 27, had suffered from recurrent attacks of iritis for three years. Two years ago I operated on his nasal septum, on the mistaken assumption that the iritis was secondary to a nasal infection. Six months later he developed a quinsy, which was immediately followed by an attack of iritis, and after this there was a succession of sore throats, followed on each occasion by a flare-up in the eyes. His tonsils were removed nearly a year ago, and, following this, the attacks of iritis have ceased and his general condition has enormously improved. In this case I have no doubt that the tonsillar infection was the primary one. As a result of experience I am now of the opinion that where one is in doubt as to the relative blame of possible foci in the nose and throat the tonsils are by far the most frequently blameworthy.

3. *Consecutive Foci.*—A misleading difficulty that not infrequently arises is that, following the surgical removal of an infective focus with resolution of the secondary results, at a later date a recurrence of these secondary lesions takes place, due, apparently, to the arising of a fresh primary focus in a new situation. Thus I believe we not uncommonly see an intestinal focal infection following on a tonsillar one, and, as in the case which I give here, a tonsillar infection following on a nasal one. In either case we have a descending infection, but it would be of interest to devote special attention to the question as to whether the reverse can take place—that is, a nasal infection follow a tonsillar one.

As an example of this occurrence of consecutive foci a female, aged 44, was seen five years ago with a history of nasal discharge of some years' standing, associated recently with severe muscular rheumatism. Drainage of infected nasal sinuses caused a complete clearing up of the rheumatism,

with considerable improvement in the general condition. Four years later, however, she had an attack of acute tonsillitis, which was followed by a recurrence of the rheumatism. Removal of her tonsils has resulted in improvement in her general condition and rheumatic symptoms.

4. *Multiple Foci.*—The occurrence of multiple infective foci presents a somewhat similar difficulty. Having discovered one focus, the surgeon is apt to rest content and thereby miss another, and possibly more responsible, one. An excellent example of this mistake can be shown by the case of a woman, aged 42, who, fifteen years ago, was affected with septic arthritis of relatively sudden onset. This was presumed to be associated with infected teeth, and these were dealt with, with perhaps some degree of improvement, but the patient remained more or less an invalid. The occurrence of an otitis media two years ago led, as a routine, to the examination of the nose. To my surprise I found on transillumination that the antrum on one side was completely opaque. Operation disclosed chronic disease in the antrum, which from its nature had almost certainly resulted from the original dental infection many years previously. A recent note of her condition states that she is now fit. Some deformity of the joints remains, but there is no sign of any active disease.

To sum up, I hope that to-day's discussion may do something towards the consolidation of our ideas as to the scope of focal infection and as to the way in which the difficulties of its application to clinical practice may be surmounted.

ELECTROTHERAPY IN THE TREATMENT OF DISEASES OF THE GENITO-URINARY SYSTEM*

BY

W. J. TURRELL, M.D.

ELECTROTHERAPEUTIC PHYSICIAN, RADCLIFFE INFIRMARY, OXFORD

Owing to the fundamental character of its action electricity, in one of its many forms, has proved itself of value in a very large number of diseased conditions. If, however, as Dr. Golding Bird[1] wrote in 1847, when dealing with electrotherapy, we wish to act as "scientific and philosophic physicians," we must inquire into the "rationale of the process" which we employ. It is not sufficient merely to enumerate the various diseases which may be beneficially treated by electricity, or to allege a number of cures. There will be no advance in our methods, and none of our scientific brethren will be convinced, if we lay down an empirical classification of our remedies, baldly stating that "zinc ionization" is good for endometritis, or that diathermy is indicated for the relief of dysmenorrhoea. Such mere assertions will carry no conviction.

On the other hand, if we expound the "rationale of the process" which we employ—namely, that the septic membrane in endometritis can be thoroughly and completely destroyed by the electro-chemical process which ensues from the electro-deposition of a caustic-forming ion, such as zinc, upon the interior of the uterus—we afford an explanation of the "rationale" of our method—which is deserving of the consideration of all open-minded physicians. Or, if we point out how the relaxation of spasm and tension in dysmenorrhoea can be effected by the deep heat generated by the diathermic current, and how the vibratory process, which is the precursor and generator of this thermal action, further serves by its dispersive action to relieve tension and pressure, then we may obtain a rational appreciation of electrotherapy from all except those whose complete ignorance of electrical methods is only equalled by their reluctance to learn anything about them. It is on such broad principles that I propose to open this discussion.

The main forms of electrical current employed in electrotherapy are: (1) the constant or galvanic current; (2) the interrupted currents of low frequency; and (3) the interrupted currents of high frequency.

Local Application of the Constant Current

In its general application the constant current owes its main effects to the reflex action induced by the stimulation of the skin nerve endings by the electro-deposition of various ions. In this form it is not of great importance to the subject of the present discussion. In its local or polar application, on the other hand, it is one of the most valuable remedies at our disposal. In the treatment of endometritis by the constant current we introduce a zinc rod or uterine sound within the uterus, and connect it with the positive pole of the source of supply. The zinc cations proceeding from this zinc rod carry the positive charge down to the mucous membrane of the uterus, at which point, owing to a change of liquid, another set of ions, mainly the hydrogen ions of the tissues and blood, continues the convection. The mucous membrane thus forms a virtual pole at which the zinc ion, yielding up its positive charge, forms with the oxygen and chlorine of the tissues an oxychloride of zinc, and, by the chemical decomposition involved in the formation of this salt and by its subsequent caustic action, the membrane is thoroughly and intimately destroyed. Provided the indifferent electrode and pad surrounds the whole circumference of the abdomen, the destruction takes place over the whole inner surface of the uterus, and so evenly is the destructive process distributed that the destroyed membrane may be subsequently passed as a complete cast of the interior of the uterus.

The application lasts for about fifteen or twenty minutes, towards the end of which uterine contractions, appreciated as pain, may be excited; these are an indication to cease the treatment. If the application causes any pain in its early stages it is evidence of complications in the appendages, such as pyosalpinx, and further treatment should be discontinued, since these cases are unsuitable for this method. It is interesting to recall that Apostoli employed the method to ascertain the condition of the uterine appendages. According to him, if the large current of 100 to 150 mA was tolerated the appendages were above suspicion. If a current of 50 mA excited pain the appendages were open to suspicion. Intolerance of 30 mA indicated serious trouble in the tubes, and if there was intolerance of 20 mA the uterine annexes should be removed.

From what, in current parlance, may be termed a fifty-fifty experience of curetting and zinc electro-deposition, I have no hesitation in pronouncing in favour of the latter method, except in cases from which placenta remains have to be removed or scrapings obtained for pathological examination. Zinc electro-deposition entails little inconvenience, and no nursing home, anaesthetic, or lying up. The apparatus required is of the simplest kind, the best battery for the purpose, complete with water resistance, costing less than 5s. There is no better, no less expensive, and no more convincing method with which the general practitioner can begin electrotherapy. A similar method of treating gonorrhoea by zinc electro-deposition was introduced by Bouchet in 1907. He employed a zinc wire within a perforated rubber catheter, through which a solution of 1 or 2 per cent. solution of zinc sulphate

* Read in opening a discussion in the Section of Radiology and Electrotherapeutics at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

was irrigated. A similar method has been used with success for the treatment of otitis media, and many other conditions.

The history of electrotherapy shows us that one of the many and great disadvantages attending the lack of any systematic teaching of our science, and consequent upon its non-inclusion in the schedules of the examining boards, is that older and more valuable methods are often lost sight of owing to the glamour that accompanies the introduction of a hitherto unknown method of treatment. There is no doubt that the benefits of electro-deposition do not to-day receive the recognition they deserve.

Interrupted Currents of Low Frequency

While these currents are certainly among the most valuable and the most frequently indicated in other diseased conditions, they are of relatively little use in the treatment of genito-urinary disease. The method of the graduated electrical excitation of muscle by the faradic coil, which we owe to Sir Morton Smart and Mr. Rowley Bristow, is of great value in the restoration of tone to the abdominal muscles, and so indirectly aids in the relief of uterine malposition. The faradic coil is also of considerable benefit in the treatment of many cases of incontinence of urine in the male, and to a less extent in the female.

The Morton wave current, a unidirectional, interrupted current of low frequency, is often indicated in the treatment of the prostate, but I need say little in reference to this, since it will be dealt with fully by Dr. Howard Humphris, who has had far more experience in this than I have ; it was, indeed, to Dr. Humphris that I owed my first introduction to this valuable instrument, the static machine. The very high voltage obtainable from this instrument—about 60,000 volts—and the very abrupt break of the current by spark discharge, yields a density of current which most thoroughly pervades the muscle or organ treated, and excites more powerful muscular contractions with less discomfort than any other method. Compare for a moment the effect obtained in this way, in the treatment of the prostate, with digital pressure on that organ per rectum. For cleanliness, convenience, and, above all, for efficiency, it must be evident that a method which enables us to produce alternate contraction and relaxation of the whole gland must be incomparably preferable to the remote kneading of its posterior surface by digital pressure. Among the most convincing proofs of the efficiency of this technique are the permanent cures which result from the treatment of those painful conditions of prostatitis which often follow old-standing cases of gonorrhoea.

Interrupted Currents of High Frequency

The interrupted currents of high frequency are a very valuable group in the treatment of diseases of the genito-urinary system. The paramount question in relation to the therapeutic action of these currents is whether their effects are due to heat alone, or whether they are, in part at least, due to the vibratory or oscillating action of the ions which precedes and produces this heat. I ventured to raise this point eleven years ago at the Portsmouth meeting in 1923, and the view then expressed was that this question should not be raised, as medical men were just beginning to appreciate the beneficial effects of diathermic heat, and their minds should not be confused by the possibility of these currents possessing any additional action. It is clear that this question cannot be dismissed in this summary fashion. On purely *a priori* grounds it would appear evident that a current of the high voltage employed, oscillating at a frequency of 1,000,000 to 30,000,000 times a second, must produce effects other than the heat generated by the ionic collision at such a frequency and voltage.

Arguing from analogy, we recognize that the vibration of modern motor traffic is injurious to our old buildings. In this case it is not merely the weight of the vehicles that is the cause of the trouble, for we have had the slow-moving, but very heavy, traction engines for years past without any serious vibration damage resulting. The modern damage has resulted from a certain ratio between speed and weight, analogous to frequency and voltage. And it is possibly from the fast travelling and heavy motor buses that much of the damage has resulted. Passing from the coarser to the finer vibrations, we have the molecular disintegration, occasioned by the electro-magnetic stresses, which takes place in the wire winding of our Oudin resonators—that is to say, if such resonators are wound with brass instead of phosphor bronze wire, the brass wire becomes so disintegrated in its structure, and so soft and friable, that a length of about six inches, when held horizontally, has insufficient cohesion of structure to support its own weight.

In the experiments of Wood and Loumis on supersonic waves of high frequency and high voltage, generated by a piezo-electric generator of quartz, we find a very striking example of the extraordinarily powerful " pounding " action of these supersonic vibrations. The voltage employed in these experiments was very high—50,000 volts—and the oscillations were 300,000 per second. In general outline the generator was of the triode valve type. Blood blisters, persisting for several weeks, were formed by the pounding transverse vibrations on the fingers holding a glass rod, the end of which was dipped in the transformer oil in which the vibrations were occurring. Small fish and frogs were quickly killed. " Filaments of living spirogyra were torn to pieces and the cells ruptured." Blood corpuscles were broken up by the molecular oscillations set in motion by these pounding vibrations.

D'Arsonval and Charrin found that the toxicity of a very active diphtheria toxin was destroyed by exposure to high frequency for fifteen minutes, although the temperature of the media or their contents never exceeded 98.5° F. Clinically, when administering diathermy, I have noticed the disappearance of a bruise exactly corresponding in its limits of disappearance to the area of the electrode. If this disappearance of the ecchymosis was due to heat the limits of its disappearance would be more diffused. The rapid subsidence of swelling in the treatment by diathermy of a recent injury, such as a Colles's fracture or a sprained ankle, is more rapid than can be accounted for as the effect of heat alone. It has been alleged that these disappearances of ecchymosis and swelling are due to the pressure exercised by the bandages which secure the electrodes in place, but I have noticed a similar disappearance, both of swelling and of ecchymosis, when treating a sprained ankle by a 30-metre wave-length. In this case the electrodes were not bandaged on but merely supported in position by lateral sandbags, and were only in contact with the ankle at the malleoli ; the disappearances corresponded exactly in their limits with the high-frequency electro-magnetic field.

Bordier obtained very similar results to those of Wood and Loumis, although he utilized a frequency of 30,000,000 at a far lower voltage than they did. Thus there would seem to be an optimum wave-length of very high frequency at which these disruptive and dispersive results can be obtained. Now this is a point of great importance and interest when dealing with the short and ultra-short wave-lengths which are now beginning to excite so much attention. It would appear, I think, that there is not a specific wave-length at which any particular micro-organism can be destroyed, but rather an optimum

wave-length at which the organism can be destroyed at a minimum voltage, though at a longer wave-length an increased voltage would produce a similar effect.

Some fifteen or twenty years ago I was one of the first to treat dysmenorrhoea by diathermy. I was led to do so by the remark of a patient whom I was treating by diathermy for pelvic pain, unassociated with the menstrual period, to the effect that after her last period she had had the first period free from pain for fifteen years. I adopted this useful hint, and have learned the great value of this treatment in suitable cases of spasmodic dysmenorrhoea. It is, indeed, easy to visualize that the spasm tends to be relieved by the thermal effects of the high-frequency currents, and that dispersal of the engorgement is aided by the vibrations; the value of these united actions in the treatment of such distressing conditions is thus readily appreciated. I believe that the short or ultra-short wave high-frequency currents will prove to be of special value in these cases. Space will not allow me to deal fully with their advantages, but it must be evident that a technique which does not necessitate the removal of any clothing is in itself a great advance. This, however, is only a matter of convenience, and the specific value of the short-wave currents will be found to be due perhaps to some extent to their more rapid and finer vibrations, but chiefly to their more even concentration and action within the body. The long-wave diathermy of about 300 metres enters the body mainly by conduction, partly by condenser or leaky condenser effect through the skin, and in a few types of application by a condenser field action. Consequently, with such wave-lengths, the conductivity of the tissues influences to some extent the effect of the treatment. The short waves, on the other hand, excite their effects solely by a condenser field action; no current actually passing through the skin, the oscillations are excited solely within the body, and as a result the tissues and structures of the body react more evenly and uniformly. It is upon such lines that I venture to open this discussion and to explain the rationale of our processes; in this manner we travel along a path, parallel to that along which physical science is to-day advancing, towards a goal of as great efficiency and exactitude as has as yet been reached by any branch of medical science.

REFERENCE

[1] Golding Bird: *Lectures on Electricity and Galvanism*, 1849.

Census of England and Wales, 1931: Occupation Tables is now on sale at H.M. Stationery Office, price 30s. net. In addition to the statistics for the country as a whole, data are furnished in similar detail of occupational subdivision for twelve geographical regions into which England and Wales has been divided, and also for counties and large urban areas. For the smaller urban areas and for rural districts data are supplied according to a condensed list of occupations and occupational groups. The statistics relating to industries will be published in a separate volume. The principle upon which the classification is based is the nature of the work performed, though in the case of the productive occupations the nature of the material worked in has been embodied in the scheme as a factor essentially determining the character of the operations. Full details of the classification, together with an alphabetical index of about 35,000 occupational terms, is published in a separate volume entitled *Classification of Occupations*, price 12s. net. On this occasion for the first time statistics of persons out of work at the date of the census are included. The classifications of such persons embrace all classes of the community, including those outside as well as those within the scope of existing statutory insurance schemes.

NON-SPECIFIC COLITIS IN RELATION TO DEFICIENCY DISORDERS AND ANAEMIA

BY

D. C. HARE, M.D., M.R.C.P.

PHYSICIAN TO THE ROYAL FREE HOSPITAL

Colitis is here used as a general term for a well-recognized clinical condition; "haemorrhagic colitis" and "ulcerative colitis" are considered as synonymous terms. Colitis is a sporadic disease occurring with some frequency in England and other temperate climates. The cause of this disease has always been very puzzling, for no specific infection has been found, though its chief symptom—diarrhoea with blood and mucus—suggests a relation to the dysenteric infections. Notwithstanding the failure to establish a definite intestinal infection, treatment has been to a great extent concentrated on the local condition, and colon lavage is employed almost universally, often assisted by irrigation from above through a stoma in appendix or caecum. The unreliable results of such treatment and its failure to prevent relapse are, however, generally acknowledged.

The purpose of this paper is to point out the resemblances of this disease to a deficiency disorder, and to urge treatment with high vitamin diets and, in particular, the vigorous treatment of the anaemia, when present, as a cure of this may be accompanied by an amelioration or remission of the colitis symptoms. Emphasis is laid on the necessity for massive doses of iron or liver. The temporary increase in diarrhoea or of other symptoms which often follows at the outset is no contraindication to continuing the treatment. Improvement in the bowel symptoms may be slow, especially at the beginning of an acute relapse, and perseverance is required. It is urged that all local treatment and sigmoidoscopic examination should be avoided if possible, as the bowel wall is highly susceptible to trauma; examples of the harm that may result are given. If colon lavage is continued, it may keep up the diarrhoea and bleeding, and cause apparent failure of other treatments.

Colitis a Deficiency Disorder

The evidence in favour of adding colitis to the list of deficiency disorders of the gastro-intestinal tract is gathered from experimental and clinical sources. The study of experimental vitamin deficiencies shows that both vitamin A and the vitamin B complex are necessary for the development of the healthy mucous membrane of the intestine and for maintaining its resistance to infection (Cramer,[1] Goldblatt and Benischek[2]). McCarrison,[3] and Tilden and Miller,[4] working with monkeys, found intense changes in the colon with vitamin-deficient diets, and in these animals the clinical signs of human colitis were closely reproduced. In human beings it is recognized that good nutrition may completely prevent the development of clinical dysentery, even though the amoeba is present in the gut. It is not suggested that non-specific colitis is the outcome of a gross diet deficiency in the majority of cases in this country; it may be due to a latent deficiency which is either inborn or acquired as the result of diet and disease. Colitis resembles a deficiency disease in that it occurs in attacks, with spontaneous remissions and relapses which follow without apparent cause; the first attacks are often slight and transitory, and each relapse tends to be more severe than the last. The highest incidence of the disease is in the second, third, and fourth decades.

A consideration of the functions of the colon is of interest. Starling states that its chief value in carnivora

and man is as an excretory organ. It has a remarkably selective capacity with regard to drugs, being particularly concerned with the excretion of calcium, iron, and bismuth. The association of a severe iron-deficiency anaemia with colitis and with malignant growths of the caecum and ascending colon is of particular significance in this connexion. The special tendency of certain metabolic toxins, as in uraemia, to cause colitis may be due to their elimination by this route, and it seems probable that clinical colitis represents some toxic attack on a colon of low resistance.

The Characteristics of Colitis

The disorder affects not only the mucosa of the bowel but the muscle wall as well. There are hypertonicity and irritability of the bowel and areas of irregular spasm and dilatation, or a general contraction with loss of haustrations: this disturbance of tone is very persistent, and causes diarrhoea with colicky pains or spastic constipation, the symptoms often alternating in chronic cases. This high tone is found after all other symptoms have disappeared, and is evidence of the continued tendency to relapse (Larimore[5]). In acute attacks the colon wall becomes atrophied to a papery thinness, and may perforate; in long-standing cases inflammatory reaction and thickening appear. The mucous membrane is granular, velvety, and intensely injected, bleeding everywhere on light touch; superficial necrosis with sloughing and ulceration may follow. The maximum incidence is usually in the sigmoid colon, from where it spreads upwards and downwards; but the caecum may be severely affected or the whole colon involved simultaneously. The stools differ with the acuteness of the condition. In early, slight, or chronic cases they may be well formed, with adherent streaks of blood and little mucus: in the acute condition offensive liquid faeces are passed with varying amounts of mucus and blood, which are less intimately mixed than in dysenteric stools; pus is usually present microscopically. The appearance of stools passed in succession may be very diverse: this is an observation of diagnostic importance.

In a severe attack, or in a chronic condition, an anaemia of secondary type develops which may be out of all proportion to the degree of haemorrhage, and is found in non-haemorrhagic cases. Severe general oedema and fever sometimes accompany the anaemia, and complications such as phlebitis and urinary tract infections are not infrequent at this stage. The differential diagnosis cannot be discussed here, but it may be based on a detailed history, repeated inspection of the stools, microscopy and culture of the stools, and opaque enema. Digital rectal examination should of course be made, but sigmoidoscopy should only be carried out if the diagnosis is still in doubt after other investigations have been completed.

The notes of twenty-five cases have been studied. Sixteen of these patients have been observed personally during some period of their illness; all were females, many of them being treated at the Elizabeth Garrett Anderson Hospital.

Aetiological Factors

The age of onset was under 20 years in four cases, from 20 to 25 in four, from 26 to 30 in eight, from 31 to 40 in five, and over 40 in four. The cause of an attack was given by fourteen patients, and may be grouped as follows: a chronic tendency to diarrhoea, but attack due to eating fruit (two cases); chronic or acute constipation (six cases); gastric influenza (two cases); influenza (one case); slimming diet (one case); sea-bathing (one case); twin pregnancy (one case). Special dietary indiscretions in some of the above were eating excess of raspberries, plums, tomatoes, and cucumber. Bargen[6] has published the causes of relapse in a series of cases, and finds that the majority (52 per cent.) are related to infections of the upper respiratory tract, and 12 per cent. to gastro-intestinal conditions. The effect of trauma in producing an attack is evident when it occurs after taking food with indigestible residue. That colon lavage and sigmoidoscopy may also produce trauma and relapse is demonstrated in these notes. Colon lavage does not seem to produce harmful results in all cases, and patients may improve under treatment; but the results of local therapy are very uncertain, and a method which appeared to cure a first attack may be quite unsuccessful in a second. The benefits are at least doubtful, and such improvement as arises may be due to a spontaneous remission.

Relapse after Colon Lavage

One patient, aged 27, had had two previous severe attacks of colitis, but had been fairly well for fifteen months. She was thought to have a growth in the colon, and was admitted to hospital for examination. No growth was found, but there was a discharge of blood and mucus, for which daily lavage was given; acute relapse set in within three or four weeks and lasted many months. Two patients with chronic colitis were noted to have had normal motions for five and seven days respectively after admission; following colon lavage all the motions contained large amounts of blood and mucus. In one case the motions became normal when the treatments were stopped; in the other there was a prolonged relapse. In two other cases lavage brought about intense pain and increase in diarrhoea.

Relapse after Sigmoidoscopy

Sigmoidoscopy was carried out in fourteen patients in this series; in some it was repeated during treatment. All the cases showed a granular, intensely hyperaemic mucosa; three had small ulcers in addition; and one, a long-standing case, had rectal polyposis. Unfortunately an acute relapse may follow sigmoidoscopy even when carried out by experienced surgeons. One patient, aged 18, was admitted with a second attack of colitis of five weeks' duration; there were two motions daily after admission, with occasional blood, no fever; after sigmoidoscopy there was a severe relapse with fever: stools five to seven. Another patient of the same age had a first attack of colitis. The symptoms gradually increased for six months; there was no loss of weight and no fever; stools two to three; some blood. Sigmoidoscopy was followed by an acute fatal relapse: stools six to eight, with much blood and mucus.

Gastric Secretion and Colitis

No relation could be discovered between the gastric secretion and the severity of the colitis symptoms. In the present series fourteen patients had a fractional test meal: six had a normal acid reaction, six a low acidity, and two achlorhydria. Among the six normals, four had very severe attacks and the other two were chronic relapsing cases, and three in this group developed marked anaemia with oedema and phlebitis. Of the two patients with achlorhydria (histamine test not given), one had a slight attack without anaemia, and the other was a severe chronic case. In another case with dysphagia a "test vomit" contained no free acid; this patient had a very chronic colitis with Plummer-Vinson syndrome. Glossitis was noted in six instances, usually developing during an acute attack of colitis; it was most severe in two patients

with achlorhydria and chronic anaemia. Brittle nails were noted in four cases.

Anaemia and Colitis

The association of severe anaemia with diarrhoeal diseases with little or no haemorrhage is well recognized. It may in part be due to a deficiency associated with hurry and want of absorption in the intestine, but Castle[7] has shown that the failure of haemopoiesis cannot be entirely related to this, but depends upon some associated though independent factor. Examples of such anaemias are afforded by tropical sprue, non-tropical sprue (Bennett, Hunter and Vaughan[8]), and chronic post-dysenteric colitis (Keefer[9]). The variability in the character of these anaemias is striking, and must depend on which of the essential factors is lacking. Further, it appears to be impossible to predict what form of therapy will prove effective, though as a rule a good response to liver may be expected when the anaemia tends towards the macrocytic group with a high colour index (as in Case 1). Massive oedema accompanying severe anaemia developed in three patients ; two had phlebitis, and one a urinary infection.

Examples of Blood Changes

In five cases of anaemia without gross haemorrhage the haemoglobin values lay between 24 and 44 per cent., the red cells between 2,900,000 and 5,500,000, and the colour index between 0.4 and 0.56. These anaemias have all been hypochromic in type, such as respond well to massive doses of iron. Case 2 illustrates the importance of treating the anaemia, and the possibility of producing a prolonged or perhaps permanent remission of the colitis, even in a very chronic case. It should be emphasized again that a temporary increase in the diarrhoeal symptoms should not be regarded as a contraindication to treatment.

SUCCESSFUL TREATMENT WITH LIVER

Case 1.—The patient, aged 18, had acute colitis for eight months, with profound anaemia, oedema, and fever. There was a rapid clinical cure with massive liver therapy: no relapse after three years.

The first attack, sudden in onset, occurred in September, 1930, with the passage of blood, slight colic, and two to three stools daily. She continued at work for two months. In December, 1930, the anaemia was very severe ; the stools contained blood and mucus ; no specific infection. Sigmoidoscopy revealed a granular mucous membrane ; one small ulcer was seen. Gastric acid was normal. For two months the symptoms gradually increased, with slight fever. Then there was an acute exacerbation, with fever up to 102° F. and pulse rate up to 125 ; stools six to twelve ; not much loss of blood. Massive oedema developed, with rapid increase of anaemia: the increase of symptoms followed a course of daily colon lavage. In May, 1931, the oedema was better but there was still fever, the anaemia was unchanged and the patient had lost 2 st. Treatment during January to June included two blood transfusions and colon lavage ; liver (4 oz.), ventriculin, and massive iron were each administered for short periods (coincidently with the colon treatments), but were omitted as they appeared to increase the diarrhoea. In June, 1931, liver extract (1½ lb. daily) was again tried ; it caused an acute reaction of fever and diarrhoea for eight days, but subsequently there was rapid improvement, with a gain in weight of about four pounds a week (2 st. in six weeks). When seen in April, 1934, the patient was very well, and had been free from any bowel trouble. Blood counts:—November, 1930: haemoglobin 27 per cent., red cells 2,500,000 ; colour index 0.56. June, 1931 (before liver treatment) : haemoglobin 24 per cent., red cells 1,250,000 ; colour index 0.9. After two weeks of liver therapy: haemoglobin 36 per cent., red cells 3,130,000 ; colour index 0.58. Reticulocyte peak 13 per cent. on fourth day. After six weeks' liver and four weeks' massive iron: haemoglobin 70 per cent., red cells 4,580,000 ; colour index 0.76.

SUCCESSFUL TREATMENT WITH IRON

Case 2.—The patient, aged 45, had had a very chronic relapsing colitis for twelve years, and severe anaemia. Clinical cure was obtained with massive iron therapy: no relapse for four years. There was a history of severe constipation from childhood, and of anaemia. At the age of 29 she had the first attack of acute colitis, with much blood and mucus. At the age of 31 she had a relapse, and was treated by appendicostomy, which was closed after ten weeks. Subsequently chronic symptoms developed with severe anaemia: blood transfusions were given at the ages of 37 and 38. When 39 she first came under my personal observation, having frequent subacute attacks with slight fever. There was a typical Plummer-Vinson syndrome, with glossitis and dysphagia ; a test vomit contained no free acid ; haemoglobin 32 per cent., red cells 4,400,000. A full course of anti-dysenteric serum produced a strong reaction, but there was a relapse with blood and mucus two weeks later. In April, 1930, massive iron treatment was begun, and has been maintained almost continuously since. There has been no relapse of colitis in four years, although occasional slight bleeding occurs, and sore tongue and dysphagia reappear if the iron is omitted for long. The patient is able to do regular hard work. Blood counts:—March, 1928: haemoglobin 32 per cent., red cells 4,400,000 ; colour index 0.4. February, 1930: haemoglobin 38 per cent., red cells 4,400,000 ; colour index 0.43. December, 1930, after eight months' iron treatment: haemoglobin 106 per cent., red cells 5,650,000 ; colour index 0.94. Haemoglobin has been maintained between 90 and 100 per cent. since.

COMBINED TREATMENTS WITH IRON

Case 3.—The patient, aged 39, had been very anaemic all her life: no menses since the age of 35. She had always suffered from looseness of the bowels. In the first attack there was acute colitis for five months ; phlebitis developed first in one leg and then in the other. There was much oedema on admission. Urinary infection was present ; stools five to seven, with flecks of blood and very offensive. The patient was given two blood transfusions, intramuscular liver daily, massive iron, and radiostoleum. The haemoglobin rose from 24 to 80 per cent. in eight weeks, with marked general improvement ; stools two to three.

Case 4.—This patient, aged 37, was seen in a second attack (first occurred twelve months previously). Apart from this her health had been good. She had a subacute colitis: stools one to two, with little blood or mucus. There was slight anaemia. She was treated with ventriculin and massive iron. The haemoglobin rose from 68 to 88 per cent. in five weeks ; she gained four pounds in weight ; the stools showed no marked change.

VITAMIN THERAPY WITHOUT IRON

Case 5.—The patient, aged 50, had had chronic colitis for three years, with very slight anaemia. Amoebic cysts were present in the stools (six to eight daily, with little blood). She was treated with emetine and yatren, with severe reaction. At first liver was given intramuscularly daily, and yeast powder by mouth. Later, marmite and cod-liver oil were given. After nine weeks the stools were one to two daily—"better than at any time in the past three years."

Failure of Liver Treatment

The following three cases gave no apparent response to liver treatment during acute and subacute attacks ; there was no initial anaemia.

Case 6.—The patient, aged 18, had had a first attack (very slight) one year before. She was admitted with a second attack of five months' duration (subacute). There was no anaemia. An acute relapse set in after sigmoidoscopy: stools seven to nine. Liver was administered intramuscularly daily, and yeast powder. The condition did not improve in three weeks. She lost 14 lb. in weight, and discharged herself.

Case 7.—This patient, aged 45, had had her fourth attack in five years ; she was quite well between attacks. There was no initial anaemia. She had a severe haemorrhagic diarrhoea: stools three to six, later six to nine. Liver

extract by mouth (1 lb. daily) resulted in no apparent improvement in three to four weeks. There was gradual improvement later on other treatments.

Case 8.—This patient, aged 22, was seen in a first attack (subacute) of eight months' duration: stools two to four daily; slight anaemia only. Liver extract by mouth (1 lb. daily) led to no definite improvement in three weeks. She gradually got better later on other treatments.

Diet and Drugs

A good diet, adequately balanced, is of great importance. Many chronic colitis patients tend to take an excess of carbohydrate food, and care should be taken to avoid this. Patients should have small meals and never go long without food, and in particular they should avoid a heavy meal when fatigued. Iced food and drinks should be forbidden. Even during the acute attack, if appetite allows, a generous diet may be given, including milk for its salt and vitamin value, and first-class protein, as fish, eggs, chicken, and, later, mutton and beef. Small amounts of green-leaf vegetables (sieved), a cupful of orange or tomato juice, and marmite should be added. In convalescence fresh green-leaf salads, stewed fruit or pulped raw apple, pear, or banana may be ordered. The usual instructions to eschew food with coarse residue should be given.

Constipation should be treated with liquid paraffin and antispasmodics, as atropine or belladonna, especially when there is colicky pain. Mild aperients, as senna, are sometimes necessary, but should be omitted as far as possible. The dose of intramuscular liver was 2 c.cm. of concentrated preparation of tested potency in pernicious anaemia. In the massive iron therapy 90 grains of iron ammonium citrate were given daily. The yeast powder—a preparation of high potency in the vitamin B complex—was prescribed in doses of 3 drachms daily.

I am indebted to my colleagues at the Elizabeth Garrett Anderson Hospital for giving me access to their patients and records, and to the pathological staff of the hospital for their assistance.

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The Queen Victoria Memorial Hospital at Welwyn, Herts, which the Duchess of York opened on July 24th, was founded in 1902. Until the present time it has been housed in the original building, to which additions were made from time to time. It is adjacent to a high road, which now carries a large amount of motor traffic. In consequence of a generous bequest made for the purpose of erecting an up-to-date cottage hospital in a quiet position, the committee was able to acquire an excellent site of about five acres and erect this new hospital.

The annual general meeting of the Medical Society of Individual Psychology was held at the Florence Restaurant, London, W., on July 12th. The chairman, Dr. J. C. Young, presided, and eighteen members dined together before proceeding to business. The present officers were re-elected. Dr. Neil Beattie and Dr. E. Taylor were elected to vacancies on the committee. The reports of the honorary secretary and honorary treasurer showed that the society is maintaining its position in membership and financial stability. An interesting programme is promised for next session.

LATE TENDON SUTURE

BY

ERIC I. LLOYD, F.R.C.S.

ORTHOPAEDIC SURGEON, ROYAL NORTHERN HOSPITAL; SURGEON, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET

Although delay in the suture of a ruptured tendon diminishes the chance of success, there are occasions when excellent function follows a delayed operation.

Rupture of the Triceps Tendon

The patient, a theatrical gymnast, sustained an accident while performing in a Paris music-hall. He was standing on his hands and supporting his partner's weight when he came upon a ridge in the carpet, which flung him sideways, so that he wrenched his left arm and tore his triceps tendon. The injury was apparently not diagnosed, and when seen three months later he had a gap of 1/2 inch above the olecranon process, and was only able to extend the elbow by the feeble action of supinator longus and the forearm extensors. He had done no work since the accident, and it was manifestly impossible for him to do so. *X*-ray examination showed a few flakes of the olecranon lying 1/2 inch proximal to their normal insertion.

FIG. 1. FIG. 2.

FIG. 1.—Case 1. Rupture of left triceps tendon. Theatrical gymnast, aged 43, one year after reinforced suture performed three months after his accident.
FIG. 2.—Nearer view, showing situation of operation scar.

At operation, on May 24th, 1933 (three months after the accident), the tendon was found to be torn so close to the bone that direct suture was impossible. A hole was drilled transversely through the olecranon, and a part of the tendon pulled down with strong catgut and threaded through this. Reinforcement was obtained by a length of half the width of peroneus longus tendon, which was passed through the bone and through two holes in the triceps tendon, and was then stitched both to tendon and to itself with catgut. The limb was left in extension for six weeks before exercises were attempted, but the patient then made such good progress that he was able to resume his occupation on October 1st, when he appeared at a music-hall at The Hague and considered his arm "normal" again. I have since seen his performance at a West-End music-hall, and he certainly did not spare his triceps.

The photographs were taken on March 24th, 1934, and show him supporting a 15-year-old boy a year after the accident.

Rupture of the Tendo Achillis

A tea-planter, aged 38, was playing deck tennis on the homeward voyage when he felt a pain in his left leg, and found that he was quite unable to stand on tip-toe. He was so pleased to be home again that his condition was not diagnosed until four months after the accident, and valuable time had been lost.

At operation, on May 20th, 1931, it was found that a gap of 1½ inches in the tendo Achillis had been bridged by fibrous tissue. This was excised and the calf muscles mobilized, without, however, making direct apposition possible. The knee and ankle were flexed, but there was still a small gap to bridge. A length of 3½ inches of half the peroneus longus tendon was passed through the two ends of the tendo Achillis, and a part of the proximal end of the tendo Achillis was turned down and sutured to its distal part. No attempt was made to close the sheath, and there was considerable difficulty even to get the skin together. The limb was put in plaster-of-Paris with the knee fully flexed and the ankle plantar-flexed. The knee was extended in a week, and the foot brought to 110 degrees two weeks later, when the stitches were removed and the plaster changed.

Eight weeks from the operation the patient was walking in an ordinary shoe, with the heel raised half an inch, but no plaster or apparatus. When he was seen four months after the operation he was wearing an ordinary heel, his foot was at 90 degrees, and he could stand on tip-toe on the affected side, bearing his whole weight on that foot for a fraction of a second. He had experienced no trouble, except for a stitch abscess, which was no doubt due to the mistake of using silk instead of catgut.

Bilateral Rupture of the Quadriceps Tendon

On March 18th, 1932, a Jewish shopkeeper, aged 77, and weighing 16 st., caught his heel on the stairs and slipped. He had been unable to extend his knees since the accident, and walking was out of the question. He was very depressed by reason of a gloomy prognosis, based on the assumption that he had a haematomyelia of the cord and would never walk again.

FIG. 3. — Case III. Bilateral rupture of quadriceps tendon. Sixteen-stone patient, aged 79, nearly two years after delayed and reinforced suture. Operation two and a half months after accident. He can stand unaided, as shown.

At operation on the right side, on June 6th, 1932 (two and a half months after the accident), the quadriceps tendon was found to be torn at the actual point of insertion into the patella, making it necessary to drill a hole in the patella and suture the tendon with strong silk. This suture line was reinforced with fascia lata, and the capsule of the joint closed with catgut. Two weeks later the left side was operated upon, and a complete rupture disclosed and repaired.

A year later the patient was seen at his little shop in Holborn; he could walk without sticks, and had active extension of the knee through 30 degrees. He did, however, generally use sticks for walking, as he felt somewhat insecure, no doubt partly owing to his age and weight.

Comment on Delayed and Reinforced Tendon Suture

The successful results in these three cases are no argument for delay in suturing cut or ruptured tendons. The diagnosis of such an injury ought to be followed immediately by operation in any recent case. If, however, diagnosis or treatment has been delayed, there is still a good chance of getting a satisfactory result, even two or three months after an injury of the large extensor tendons. The story is an altogether different one for the smaller tendons, which are concerned with fine movement, such as those of the hand.

Operative Technique

The exact operation will vary in different cases, but the following points in technique seem reasonable.

1. The functional efficiency of a muscle demands apposition of the torn ends of the tendon whenever possible, and, failing that, the shorter the bridge the stronger will be the muscle.

2. Aids in securing apposition. Posture of adjacent joints and mobilization of muscle bellies help, but good honest pulling on the muscle generally helps more.

3. Suture material. Strong chromic catgut is the best, but it must be supported by splint or plaster-of-Paris for six weeks. Weight-bearing may be allowed during the latter half of the period if the sutured tendon is in the lower limb.

4. Supplementary sutures. Peroneal tendon and fascia lata will sometimes turn doubt into security. They are always available in case of need.

5. The immediate post-operative position of a joint should relax the suture line, but if such is a malposition it must be gradually corrected in two or three weeks if the patient is an adult. In children this is not so essential.

6. It is much better to put the tendon through a hole in the bone than to stitch it to periosteum.

A SECOND ATTACK OF ACUTE POLIOMYELITIS

BY

THOMAS MOORE, M.B., B.S.

CLINICAL ASSISTANT TO THE ORTHOPAEDIC DEPARTMENT, ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE

The occurrence of a second attack of acute anterior poliomyelitis is rare.* In 1930 Still[1] reported one case, and was only able to collect eight definite cases from the literature. The diagnosis depends entirely on clinical evidence. In the case here reported this seems to be so complete as to leave no doubt as to the diagnosis.

Case Record

History.—On February 14th, 1934, W. L., aged 7 years, was brought to the out-patient department of the Royal Victoria Infirmary, Newcastle, because he was paralysed. His mother volunteered the following history. The child was healthy at birth, but at 10 months of age he had an attack of pneumonia. He was ill for fourteen days. After this the lower limbs seemed to "pine away," and he did not progress normally with learning to walk, as he had been doing previously. When the child was 3 years old he walked so badly —"his feet just seemed to flop about"—that his mother took him to see Dr. Nattrass at the Royal Victoria Infirmary (April 5th, 1930). He was given massage treatment and fitted with iron splints. He was able to walk remarkably well in these, used to go to school in them, and lived as a normal boy until eight weeks ago. He was then sent home from school because he was not well. The mother noticed that he was "heavy" and feverish, and his nose was running. A doctor who was called in thought he was sickening for measles. In a day or two, however, he improved, and returned to school after a week's absence. A week later the child was taken ill again, and had to be put to bed. On the third day a rash appeared, which was diagnosed as measles. The child became very weak and helpless, and unable to feed himself. He complained of pains in his back and limbs, which were sore to the touch. After fourteen days an attempt was made to get the child up. It was then found he could neither stand nor sit.

* A short case record appeared in the Epitome of Current Medical Literature of June 9th, 1934, para. 474.

Clinical Findings (February 14th, 1934).—Examination revealed a rather pale child of normal intelligence. No abnormality could be detected on examination of the respiratory, cardiovascular, or alimentary systems. The cranial nerves were found to be normal. Examination of the upper limbs was as follows. The proximal muscles were normal. In both hands there was marked wasting of the interossei, and of the thenar and hypothenar eminences, so that the hands appeared flattened. The fingers were held in slight flexion at the interphalangeal joints, and hyperextension at the metacarpophalangeal joints. The power of flexion of the wrists and fingers was weak. There was no power at all in the left flexor carpi ulnaris. The patient was unable to extend the interphalangeal joints of the fingers or flex the metacarpophalangeal joints, and attempts to do so only resulted in an increase of the claw-hand deformity. He was able to extend and flex the metacarpo-phalangeal and the interphalangeal joints of the thumbs. There was no power of adduction or of opposition of the thumbs. There was marked wasting of both lower limbs, and each showed the deformity of talipes equinovarus. There was some cutaneous hyperaesthesia to touch of the left lower limb. All the muscles moving the hip-joints were very much reduced in power. Both quadriceps and hamstring muscle groups were very weak, particularly on the left side. All the muscles moving ankle and midtarsal joints were completely paralysed save the left posterior tibialis, which had a trace of power. There was no power in the recti abdominis.

Electrical Reactions (April 24th, 1934).—There was no faradic response in the muscles of the legs and (?) no galvanic response. There was no faradic response in flexors of the right wrist or fingers, but some in the flexor carpi radialis. No faradic response occurred in the muscles of the right hand. There was fair galvanic response. Faradic response was present in all flexors of the left wrist and fingers, there being no faradic response in the muscles of the left hand. The galvanic response was fair.

It was particularly fortunate that this child was originally seen in the hospital, for the following clinical findings, made on April 5th, 1930, are available. "A case of anterior poliomyelitis—atrophic weakness of both lower limbs, double paralytic talipes equinovarus." The electrical reactions recorded at the same time are given as follows. "Right leg—no faradic response in extensor digitorum longus, extensor hallucis longus, or peronei; good response in anterior and posterior tibiales; faint response in calf muscles; galvanic response rather poor. Left leg—no faradic response in anterior tibialis or peroneal muscles; good in calf muscles; long flexor doubtful; galvanic response rather poor."

The child was given the usual physical treatment, and was fitted with double irons to the right knee and full-length irons on the left leg attached to pelvic band.

Conclusion

From these findings there appears to be no doubt that the child, at an early age, had an attack of acute anterior poliomyelitis. This left him with some weakness of the lower limbs, but he was able to walk remarkably well in supports, and lived as a normal boy until nearly 7 years of age. Then, following two rather indefinite febrile illnesses, the muscular weakness became much more widespread. The affection of the lower limbs increased in severity, and the hands and recti abdominis were affected in addition. In consequence the child was left in a very helpless condition. While he has been in hospital the condition of the limbs has not improved, but the recti abdominis are recovering slowly. There would appear to be no other explanation of these findings but that a second attack of acute anterior poliomyelitis has occurred.

My thanks are due to Mr. Gordon Irwin, under whose care the patient is, for permission to publish the case, and to Dr. F. J. Nattrass for his helpful advice and criticism.

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Clinical Memoranda

A MODIFICATION OF BENEDICT'S TEST

In most laboratories either Fehling's reagent[1] or Benedict's qualitative reagent[1 2] is used in making a preliminary rough estimate of the amount of sugar in the urine, but with the application described below I have been able to dispense with the standard quantitative determinations altogether in routine clinical work. The method depends on observing the colour of the filtrate obtained after boiling the urine with Benedict's qualitative reagent. By experiment it was found that 5 c.cm. of the reagent is just decolorized by 0.5 c.cm. of 2 per cent. glucose (that is, 10 mg.) in five minutes in a boiling-water bath.

TECHNIQUE OF TEST

Five c.cm. of Benedict's qualitative reagent and 0.5 c.cm. of urine are mixed in a test tube, which is placed in a boiling-water bath for exactly five minutes. The mixture is filtered hot through a fine paper (Whatman No. 44) into a tube of the same bore as that of the standard colour tubes. The colour of the unknown is then compared with that of the standards, the tubes being observed against a white background. If the filtrate is colourless 2 per cent. or more of glucose is present: the test is therefore repeated, employing urine which has been diluted twofold or fourfold, and allowing for the dilution in the calculation.

The preparation of the standard colour tubes and the concentration of sugar to which each corresponds will be clear from the following table.

No of Standard Tube	Amount of Benedict's Solution (c.cm.)	Amount of Distilled Water	Percentage of Glucose to which Tube Corresponds
1	5	0.5	0.0
2	4	1.5	0.4
3	3	2.5	0.8
4	2	3.5	1.2
5	1	4.5	1.6
6	0	5.5	2.0 or over

The above data have been established by direct experiment. Thus it was found that the colour of the filtrate, after heating 5 c.cm. of reagent and 0.5 c.cm. of 0.4 per cent. glucose in a boiling-water bath for five minutes, exactly matched the colour of a mixture of 4 c.cm. of reagent and 1.5 c.cm. of water; and so on for the other tubes. The filtrate may have a greenish tinge which, when marked, renders matching with the blue standards rather difficult. Nevertheless, the accuracy that can be attained by this modification is always sufficient for clinical purposes. The only special apparatus required is a set of six uniform tubes containing the standard solutions. These can be readily prepared from the table given above.

I wish to thank Dr. G. A. Harrison for providing the facilities for doing this work in the Laboratory of Chemical Pathology at St. Bartholomew's Hospital.

A compact outfit, comprising a set of standards fixed in a suitable stand, filter paper (No. 44), small filter funnels, and tubes uniform with those containing the standard solutions, can be obtained from British Drug Houses, Ltd., Graham Street, London, N.1.

St. Bartholomew's Hospital. JOSEPH FINE, M.D.

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Reviews

GENERAL ANAESTHESIA

Privatdozent HANS KILLIAN's textbook on general anaesthesia, Narcosis for Operative Purposes,[1] shows evidence of balanced judgement and outlook, with much experience of both clinical and experimental work. The author's wide reading is shown by the liberal documentation to every chapter, and indeed it may be questioned whether the book is not overloaded with references, though, as he states, the literature on the subject is terrific (*ungeheuer*). The history of anaesthesia and of the various agents and methods employed is concisely and fully given; recent innovations are mostly described, excepting divinyl ether, while pending further experience judgement on cyclopropane is withheld. The author explains that the development of the specialty in Germany has been hindered by economic and other causes, and that operating surgeons generally demand as complete a control of the anaesthesia as of the operation, while specialization is often condemned. Though he states here that the future will show whether these conditions really make for the benefit of patients, in a later chapter he ascribes the failure to make use of nitrous oxide in dental work largely to the absence of specialists.

The arrangement of the book is rather unusual, for the theoretical aspects of narcosis as a whole—chemistry, physics, absorption, elimination, etc.—are very fully and completely described and illustrated with graphs, charts, and tables, as are its effects on the various systems and on the metabolism. The technical side is also fully dealt with—namely, the preparation of the patient, stages and progress of anaesthesia, signs of depth, and so on. In regard to the latter, eye signs rightly appear very low down on the list, while alterations in breathing are placed high. A transatlantic flavour is given, among other things, by the graphic schemata for the course of anaesthesia with the various agents. The prevention and treatment of complications are described.

The amount of space given to the details of administration contrasts strongly with that devoted to theory; thus, although the technical chapter comprises 100 pages, the allotment of space for practical instruction is as follows: Ether, "open" nine lines, Ombrédanne fifteen, vapour methods twenty-eight. Chloroform has one line only—"The use of chloroform in clinical practice is forbidden," a verdict which many may think too harsh. Nitrous oxide, including gas-oxygen, has eight lines. The use of 100 per cent. gas for induction is condemned, while throughout the book particular emphasis is laid on the need for the avoidance of cyanosis and for the maintenance of high oxygen percentages, an opinion which may not be shared by all authorities. Ethylene has three lines, narcylen (acetylene) five, and others in proportion.

The statistics of anaesthesia, also its deaths, complications, and sequelae, are fully and cautiously discussed, while the comparative mortality figures are very fairly given. The use of methods other than narcosis is considered, without bias, for various operations and regions. A section on therapy makes no reference to the use of carbon-dioxide-oxygen mixtures in asphyxia neonatorum.

The author's attitude towards basal narcosis is conservative, and he considers that, although the barbiturates give good results with gas, their use has increased the mortality and morbidity rates for ether (though lack of skilled administrators may not be without influence here). Avertin is condemned for chest surgery, owing to its depressant effect on an already hampered respiratory system, and in general he considers that its use will decrease in future. Nembutal is not mentioned. Evipan (endorm) is justly praised as the most valuable of the barbiturate series at present, and though the use of after-doses is described, no extravagant claims are put forward.

Though there is not the customary textbook display of small instruments, a fairly complete range of gas and other apparatus is illustrated, but no complete British machine, with which the author is evidently unfamiliar, since though two small ones are shown, one is described, but quite incorrectly, while the other, which is said to be similar, is in fact totally different in design and construction (pp. 377–8). The mouth-hook on a nasal gas fitting is strangely described as a suction tube (p. 373). The author's machine appears well designed and practical, but the block of his sight-feed is upside down (p. 361). He is not at all enthusiastic about carbon dioxide absorption methods, but advocates the exhaustion of expired gases from the machine, or mask. A novel principle described is the use of anaesthesia under negative pressure for producing anaemia during cerebral operations. Tracheal insufflation and intubation are described, but there is no mention of Magill's "blind" method. It is admitted that the former prejudice against tracheal methods in Germany was unjustified, and that they should be more widely used. The mode of intubation described (p. 343)—namely, to insert the spatula between the cords and then to twist it so as to separate them widely—will hardly commend itself to English readers. A chapter on explosions and safety precautions stresses a danger which has had little attention here.

[1] *Narkose zu Operativen Zwecken.* By Dr. Hans Killian. Berlin: J. Springer. 1934. (Pp. 406; 165 figures. RM.24; geb., RM.26.80.)

PARSONS'S "DISEASES OF THE EYE"

It is a pleasure to extend a welcome to the seventh edition of Sir J. HERBERT PARSONS's manual of *Diseases of the Eye*.[2] Four years have passed since the sixth edition appeared, and during these four years ophthalmology has seen considerable advances. It is one of the best features of this book that the essentials of the new knowledge are incorporated in each successive edition without adding to its bulk or changing its character. As has been said in previous reviews, its lucidity, its comprehensiveness, and its compactness make this an ideal textbook for the student as well as an excellent reference book for the practitioner, while its worth is enhanced by the absence of polemic discussions of theoretical matters of temporary interest or questionable value, and by its insistence on the practical points of diagnosis and treatment as these affect the everyday practice of ophthalmology. What is new is not added to the text inconsequently, but it is sifted and assessed by a mind of unusual critical power in the light of an experience which it would be difficult to parallel. The book has always been considered the best manual on its subject in our language; the new edition will carry on this tradition, and well deserves to do so.

DETERMINATIVE BACTERIOLOGY

Most bacteriologists, at any rate those concerned with the teaching of this subject, are already acquainted with BERGEY'S *Manual of Determinative Bacteriology*.[3] All will admit the necessity for the introduction of order into the chaos of bacteriological classification. Unfortunately the system elaborated by the Committee of the Society of American Bacteriologists, which this manual presents, has not received universal sanction; even the society itself

[2] *Diseases of the Eye.* By Sir John Herbert Parsons, C.B.E., D.Sc., F.R.C.S., F.R.S. Seventh edition. London: J. and A. Churchill Ltd. 1934. (Pp. 695; 353 figures; 21 plates. 18s.)

[3] *Bergey's Manual of Determinative Bacteriology.* By David H. Bergey. Fourth edition. London: Baillière, Tindall and Cox. 1934. (Pp. xvi + 664. 27s.)

points out that the system is in no sense official or standard. However, opinion for and against what has come to be known as the American system of classification crystallized out long ago, and in introducing the fourth edition the duty of the reviewer is mainly confined to announcing its appearance. This new edition contains additions and modifications. Two new genera have been recognized—*Brucella* and *Listerella*—and the genus *Pfeifferella* has been combined with *Actinobacillus*. Many new species have been included, and some organisms have lost their specific status. However, those interested will consult the book and see for themselves the advances which have been made.

"ANNALS OF MEDICAL HISTORY"

The May instalment of the *Annals of Medical History*[4] opens with an extremely interesting but hitherto somewhat neglected subject—the costume and outward trappings of medical men; Mr. W. J. Bishop has here brought together a great deal of information from many sources, including the Royal College of Physicians of London, and has introduced some lively quotations and episodes. Dr. H. E. MacDermot of Montreal contributes an attractive analysis of the early editions of Osler's *Textbook of Medicine*, and from a study of the author's own copies in the Osler Library at McGill traces the changes in the successive editions, and brings to light many of Osler's quips and turns of speech. In the next article Dr. Pitfield gives a sketch of the life of Dr. T. H. Chivers, "the wild Mazeppa of letters," also described as being "at the same time one of the best and one of the worst poets in America" in the first half of the last century. Dr. W. E. Robertson's article on physical diagnosis from the time of Röntgen is not such modern history as the title suggests, for reference is made to the activities of medical pioneers before the discoverer of *x* rays was born; a number of eponymic physical signs are mentioned, among them Riesman's sign in exophthalmic goitre, which are unfamiliar to many medical men. The state of treatment in this country, as judged by John Wesley's popular *Primitive Physic* (1772) is compared with that in Persia at the beginning of the sixteenth century, as shown in Joseph of Herat's work on therapeutics, by Dr. H. A. Lichtwardt of Meshed, who arrives at the rather startling conclusion that there was not much difference between them. Dr. B. W. Weinberger of New York contributes a well-illustrated article on ancient dentistry in the Old and the New World, and Dr. Lynn Thorndike provides a glimpse of the state of medicine in the third quarter of the seventeenth century by analysing the *Bibliographia Medica et Physica Novissima* (1681) of Cornelius à Beughem.

MOVEMENT, MANIPULATION, AND MASSAGE

Written as a handbook for the qualified masseur and in the hope of interesting medical practitioners in the prescribing of massage for their patients, Dr. J. B. MENNELL'S *Massage, Its Principles and Practice*, has become the standard English book on the subject. It was published during the war, and was then remarkable for the progressive views which have wrought such a change for the good in the treatment of recent injury, and have aided so many disabled men in recovering the greatest possible measure of functional activity.

A third edition has now appeared, under the new title of *Physical Treatment by Movement, Manipulation, and Massage*.[5] This change is a happy one, for it indicates the more comprehensive nature of the contents, the earlier title having suggested treatment limited to massage in the more restricted sense of the term, although the book actually covered a wide field of physical treatment. The new edition has been greatly augmented, and much has been rewritten. Some wholly new chapters have been added, including a timely one on "the use and abuse of the faradic current," which comprises a description of the technique of applying the faradic current for one of its lesser-known properties—namely, its sedative effect and its use in teaching relaxation. A new section on "referred pain from the back" has been added to the valuable account of the problem of backache, and the importance of the two chapters devoted to this subject cannot be too highly stressed. The simplified diagrams illustrating them are clear and telling. Another new chapter which will be welcomed deals with joint manipulation. Concerning physical treatment in obstetrics and gynaecology, the detailed prescription for measures to be adopted during the puerperium gives exactly the information most helpful to a masseuse who, after qualification, may for the first time have an opportunity of administering this very beneficial prophylactic treatment.

Altogether, the third edition of Dr. Mennell's book is a distinct advance on the original edition, admirable though the latter was, and it ought to be possessed and seriously studied alike by the experienced masseur and the medical practitioner.

LEPROSY CONTROL IN MALAYA

The Government of the Federated Malay States has issued a booklet[6] describing the Leper Settlement at Sungei Buloh in order to record the steps that have been taken to fight this disease and with a view to assessing so far as is possible the extent to which the effort is proving successful. The Settlement was completed in 1930 in conformity with the Malayan law that every leper must be segregated. After eliminating from the valley in which it was placed all breeding grounds for the *Anopheles maculatus*, and the eradication of indigenous malaria, fifty-seven acres were taken over for the necessary living houses, farm area, fruit plantations, enclosures for rearing live-stock, administrative buildings, treatment blocks, and playing fields. There is accommodation for nearly a thousand lepers, obtained at a cost of about £100,000. Most can walk about, and assist in the conducting of the Settlement life, but for advanced cases and the sick there are two specially constructed wards for men and one for women. The principles of modern town planning have been skilfully introduced into the Settlement, no monotonous streets or dull blocks of houses being permitted. There is no suggestion of control by coercion; the settlement is not on an island, there is no wall, and no outside guards or police between it and the main road to Kuala Lumpur. Yet very few lepers attempt to escape, and most of those who do so return voluntarily in a short time. Ample opportunity is given for recreation, and the work and partial control of the Settlement is in the hands of the lepers. There are five social clubs and an open-air cinema; dramatic entertainments are arranged from time to time, with obviously beneficial results on the health of the leper children. Educational facilities are provided. The workers in the Settlement receive a small monthly payment.

Discussing the problem of marriage among lepers, Dr. G. A. Ryrie, who has been medical superintendent for

[4] *Annals of Medical History*, New Series, vol. vi, No. 3, May, 1934. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc.; London: Baillière, Tindall and Cox. (Pp. 193–290; illustrated. Volume of six numbers, £2 15s.; single number, 12s. 6d.)

[5] *Physical Treatment by Movement, Manipulation, and Massage*. By J. B. Mennell, M.A., M.D. Third edition. London: J. and A. Churchill Ltd. 1934. (Pp. 618; 274 figures. 21s.)

[6] Malaya Publishing House, Ltd., Singapore.

most of its existence, and has drawn up the booklet, defends the provision of married quarters. He points out that no child is ever born with leprosy, but it is necessary to remove such children from their leprous parents in order to prevent infection. The birth rate is low. Children born in the Settlement are removed after two weeks to the General Hospital in Kuala Lumpur, where they are cared for at Government expense. When the parents are discharged from the Settlement their children are returned to them; others are adopted by benevolent families outside. Patients are encouraged to look forward to ultimate discharge; they are considered free to leave after having been for six months free from symptoms both clinically and bacteriologically. On discharge a patient is given a railway ticket to his home and a certificate to his previous employer. There are a dozen leper "policemen," who organize exercise groups, help the older people and the children, act as messengers in the Settlement, and generally promote an atmosphere of courtesy and good will. In these ways a small staff controls happily and successfully a thousand patients who are legally in detention, even though there are at least six different religions and a babel of languages. All except the most hopeless cases are under treatment, and research is in active progress on this mass of clinical material. There are special centres for teeth disorders, the treatment of venereal diseases, children, and sores of the hands and feet.

Dr. Ryrie discusses the interesting topics that arise in connexion with this modern way of tackling a national problem. The success achieved is indicated by the steady rise in the number of voluntary admissions. The Settlement educates the leper in the way he should live, and sends him out to carry the information to others. In no other country does the same field exist for the investigation of the different racial varieties of leprosy, for the observation of relative incidence and its causes, and for the consideration of the effects of national diets and habits on the course of the leprotic process.

Notes on Books

In his little book *Studies in Blood Formation*[7] Dr. T. D. POWER describes and discusses his observations on the administration of sulfosin, thyroxine, and indian ink to rabbits and man, and also the blood changes that follow the treatment of general paralysis by malarial parasites. These observations do not advance our knowledge of blood formation, and the discussions involve amateur speculations of little value. The introductory chapters, which are concerned with haematological technique and the histology of the blood and bone marrow, are superfluous, and will not appeal to haematologists familiar with these subjects. The cytology of the bone marrow cannot be studied satisfactorily in sections. The author does not make it clear that reticulocyte formation *always* precedes the formation of mature red cells, but the appearance of reticulocytes in the circulation depends largely on the rate of maturation of these cells in the bone marrow.

The latest addition to the historical series of Clio Medica is the little book on *Japanese Medicine*,[8] by Dr. FUJIKAWA, which first appeared in a German form in 1911, at the International Health Exhibition held at Dresden, and has now been translated into English by Professor RUHRÄH, with a supplementary chapter on recent medical history in Japan by Dr. KAGEYAS W. AMANO. The book is divided into ten chapters, devoted to the history of medicine in Japan from remote antiquity down to the present day. At first all medical lore came out of China, but from the seventeenth century onward European practitioners, especially the German and Dutch, who came to Japan as physicians to their respective embassies, had considerable influence in the development of Japanese medicine. The chapter on the recent history of medicine, by Dr. Amano, contains an illustrated account of the work of Shiga, Takamine, Kitasato, Noguchi, Inada, and Ido, among others, and a list of Japanese medical schools. A chronological table of the chief works in Japanese medicine, from 413 B.C. to the present day, is appended.

A review of the many medicaments of every description that have been used in the treatment of arterial hypertension is furnished by Professor ROCH[9] of Geneva, and should be of service to medical practitioners anxious to try yet another treatment for this chronic malady. The book is well written, and the indications for the various lines of treatment suggested are clearly described.

In a thesis on Local Treatment of the Lung[10] Dr. VICENTE DE PABLO maintains that the modern method of local treatment of the various accessible organs should logically be applied to the lung. The only method hitherto employed has been that of tracheo-bronchotherapy, which has been carried out by relatively few persons, owing to the difficulties in its performance. On the other hand, the transglottic method of Garcia Vicente, adopted by the author, is simpler, and enables the treatment to be applied directly to the trachea, bronchi, lungs, a single lung, or a single lobe. A bibliography of 107 references is appended.

Mr. C. L. HINTON, of the British Association of Research for the Cocoa, Chocolate, Sugar, Confectionery, and Jam Trades, has compiled a *Summary of Food Laws and Regulations*, and this is published at the high price of one guinea by the Nema Press Ltd. (33, Tothill Street, London, S.W.1).

[7] *Studies in Blood Formation.* By T. D. Power, M.D., M.R.C.P., D.P.H., D.P.M. London: J. and A. Churchill Ltd. 1934. (Pp. 124; 25 figures. 8s. 6d.)

[8] *Japanese Medicine.* By Y. Fujikawa, M.D. Translated from the German by John Ruhräh, M.D., with a chapter on the recent history of medicine in Japan by Kageyas W. Amano, M.D., D.Sc. New York: Paul B. Hoeber, Inc. 1934. (Pp. 114. 1.50 dollars.)

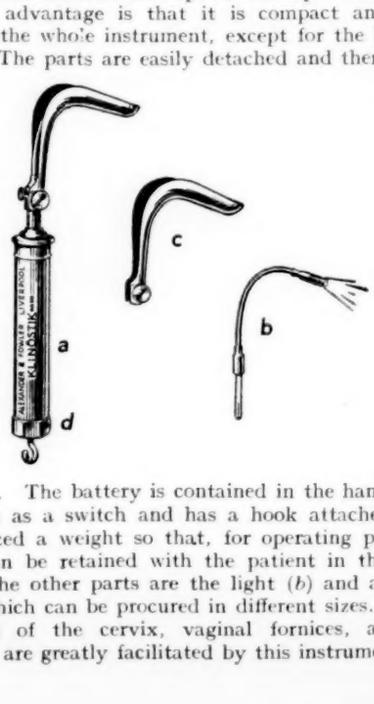
[9] *Les Traitements de l'Hypertension Artérielle.* By Maurice Roch. Paris: Masson et Cie. 1934. (Pp. 128. 20 fr.)

[10] *Medicacion local pulmonar por via intratraqueal.* By Dr. Vicente de Pablo. Cordova and Buenos Aires: A. Lopez. 1933. (Pp. 57; 21 figures.)

Preparations and Appliances

A NEW LIGHTED VAGINAL SPECULUM

Mr. M. DATNOW, F.R.C.S. (Liverpool), writes: For the purpose of simplifying the demonstration of the cervix and its lesions to students, I have had made for me by Messrs. Alexander and Fowler, Liverpool, the speculum illustrated below. Its advantage is that it is compact and simple to sterilize, as the whole instrument, except for the battery, can be boiled. The parts are easily detached and there is nothing



to go wrong. The battery is contained in the handle (*a*); the cap (*d*) acts as a switch and has a hook attached on which may be placed a weight so that, for operating purposes, the speculum can be retained with the patient in the lithotomy position. The other parts are the light (*b*) and a detachable blade (*c*), which can be procured in different sizes.

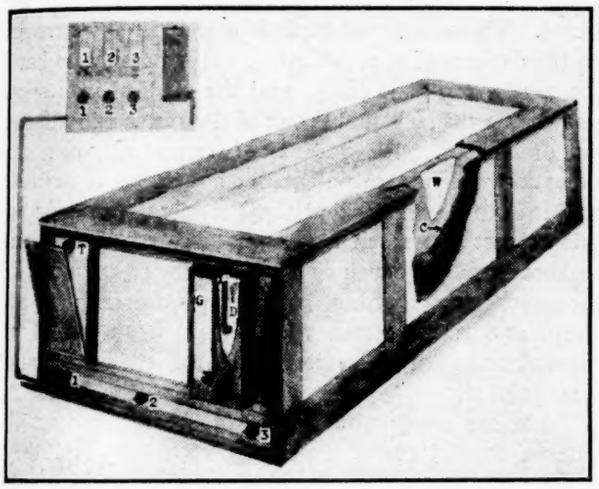
Inspection of the cervix, vaginal fornices, and anterior vaginal wall are greatly facilitated by this instrument. I have

also found it very useful in operations in nulliparae and persons with narrow vaginae, where a light which occupies no room is a distinct advantage. There is no doubt that inspection of the cervix will not infrequently reveal a small polyp or ulcer that is missed by palpation. The omission of cervical inspection during gynaecological examinations frequently leads to important lesions being overlooked in the early stages. I hope that this speculum, by facilitating inspection, will encourage this procedure.

AN ECONOMICAL DESIGN OF THE MELTED PARAFFIN WAX BATH

Sir LEONARD HILL, M.B., LL.D., F.R.S. (Supervisor, St. John Clinic and Institute of Physical Medicine, Ranelagh Road, London, S.W.), writes:

Treatment by application of melted paraffin wax was first carried out in France. Some years before the war Mr. W. L. Ingle noticed that many of his workpeople were in the habit of immersing their hands and feet in a vat of wax, which was at his works at Cherwell, Yorkshire. The vat had a holding capacity of half a ton, and steam was used for heating it. So many were benefited by it that Mr. Ingle, during the war, presented the bath to the 2nd Northern General Hospital for the use of wounded soldiers, and Colonel Littlewood found it of considerable value in giving relief in cases of neuritis and rheumatism. Stiffness of muscles and



joints, due to wounds, nerve injuries, and splinting, and vasomotor troubles such as frost bite were benefited. Dr. Howard Humphris, having seen this bath, had one made for his use in London, and in a lecture given in 1919 stated that he had found it useful for chilblains, neuritis, rheumatic and gouty joints, fibrositis, cramp in the calf and intermittent claudication, eczema vesiculosum, and phlebitis. The bath was made of white glazed fire-clay, 3 inches thick (to prevent radiation of heat), and was fitted with a self-contained heating apparatus which kept the wax at the required temperature (120° to 130° F.). If the melting-point of the wax is 110° when the patient immerses, say the hand, in the bath for twenty to thirty minutes the wax forms a glove of solidified wax on the part, and the vapour under this acts as an insulator and prevents burning. The sensation of heat is thus quite comfortable. When the part is removed and allowed to cool for two to three minutes the wax coating is easily peeled off. The bath itself is thus not contaminated, while the wax peeled off the patients is exchanged for pure wax. After wax-bath treatment the skin is reddened, moist, and somewhat greasy, and in ideal condition for massage. The patient usually experiences relief from pain, and finds the joints more lissom. Patients with nerve lesions can stand only 115° to 118° without blistering, while others can stand 130°, and even up to 140°.

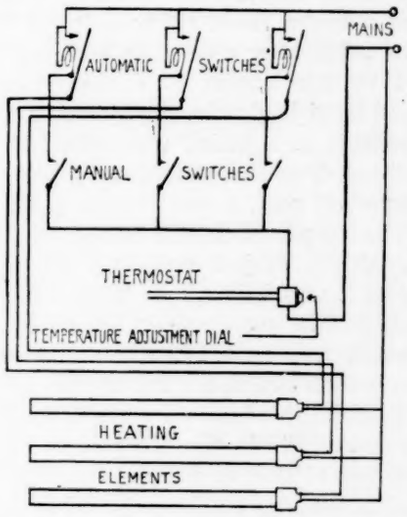
Immersion of a part in the path, according to Dr. Howard Humphris is a better form of treatment than pouring melted paraffin wax on to it.

The paraffin-wax bath has been found costly to run, and I have been told of a general hospital being forced to give it up on that account. The excessive cost is due to the amount of current required for keeping the bath hot. It was obvious that the cost might be very much lowered by proper insulation. Glazed firebrick is a good insulator for high but not for low temperatures.

With the help, then, of Mr. H. Saunders of 205, Chichester Road, N.9, an engineer well versed in problems of insulation, a bath was so constructed that the cost of electric current for running it was only 1s. per week when the bath was covered and not in use, and under 6s. per week when one hundred treatments per week were being given.

The bath consists of a water-jacketed tank, whose inside dimensions are 4 ft. 6 in. long, 2 ft. 3 in. deep, and 2 ft. 6 in. wide, provided with electric heaters in the jacket wall, which heat the water, W, with which the water-jacket is filled. The water-jacket is 3 in. wide at the sides and 5 in. at the bottom. The outside of the jacket is packed with cork, C, insulation 4 in. thick, and finished with panelling.

The working temperature of the bath is controllable by means of the adjustment screw and dial on the thermostat, T, the stem of which projects into the water-jacket, a removable panel being provided to enable it to be readily accessible for adjustment and change of working temperature. The thermostat controls the circuit breakers, 1, 2, 3, which are arranged on the switchboard on the wall of the room, and the electrical wiring from the board to the thermostat and heater is enclosed in conduit. The operation of the heating



system and control is illustrated in the circuit diagram, and their arrangement may be followed from the equipment figure. In addition, a gauge glass, G, filling tube, I, and overflow, D, are provided, these being arranged in another removable panel box above the heater panel.

All elements and components to the heating and water system are interchangeable, and easily accessible to enable their replacement in the event of defects arising—a comparatively simple matter. The wax, which is surrounded by the water-jacket, never comes in contact with any temperature above that at which the water is held; thus no danger can arise from volatilization or fire, and as the area for heat transmission is very large the heat recovery is more efficient. As the usual range of temperature working is approximately 130° F. the water evaporated is not very much, and it is not necessary to provide a permanent connexion to the water supply. Loss of water observed in the gauge glass can easily be made up by feeding water by hand into the feeding tube, I, to the required level. For immersion of the legs a broad seat and back support is arranged at one end of the bath. There are steps, too, at the side of the bath on which patients can stand for the comfortable immersion of their arms. A wooden cover in three sections is put over the bath when not in use. A small bath for hand or leg can be constructed by Mr. Saunders on the same principle, and made movable.

The patients at this clinic report very favourably of the wax-bath treatment. The clinic, which was known as the London Clinic, has now been named the St. John Clinic, as the control of the clinic is under the Order of St. John.

British Medical Journal

SATURDAY, JULY 28th, 1934

THE PRESIDENTIAL ADDRESS, 1934

The opportunity given him by his high office naturally leads a President of the British Medical Association to strike a topical note. Often the place at which the Annual Meeting is held is the inspiration of the address. Sometimes the occasion is used for dealing with the special department of medicine in which the President is interested, or for reviewing the progress of medicine or of the Association during the interval which has elapsed since a previous meeting at the same place. Dr. S. Watson Smith, in taking as his subject "Climate and Health," has happily chosen one peculiarly fitted to a place which is perhaps the best example in this country of a health resort richly endowed by nature, which was deliberately created as such and has been developed by the labours of several generations of vigilant and far-sighted citizens. Moreover, the subject is very suitable to a period when physical medicine, of which the study of airs, waters, and places constitutes a very important part, is receiving so much attention. There can be few places, outside the spas of the country, in which such a subject could so fitly be treated, especially as it was followed on Wednesday morning, in the Section of Balneology and Climatology, by a discussion which may be said to be complementary to much that is contained in the Presidential Address.

Dr. Watson Smith's brief reference to those problems of public health which were debated at the Bournemouth meeting of 1891 is a useful reminder, to which the rest of his address can be regarded as a corollary, that the advance of medical science is definitely orientated in the direction of the prevention of disease, largely by means of the improvement of environment. His faith that the British Medical Association can be trusted to be mindful of its responsibility to the public will be a fresh stimulus to a body which is justly proud of its past history, and which has shown by its actions that it is aware that its status depends quite as much on its exhibition of public spirit as on its capacity to promote and defend the interests of the medical profession and its members.

Running through the whole of the address is the belief that the use of what may be called nature's remedies can and should be put on a more scientific basis: that the old empiricism which has too long been associated with this group of remedies is out of date. And it is very useful to have the President's comprehensive definition of climate as "all the solar and terrestrial factors and influences which affect animal and vegetable life, including sunlight, atmospheric temperature, humidity and pressure, movement of the air, and prevailing winds—the factors which make our climate what it is; and . . . also embracing waters and places." Here, indeed, is a wide field for research, comparatively untilled, which should attract the attention of local workers, for they alone can provide many of the necessary data and help to draw the conclusions which should prove useful to all doctors who have to advise as to choice of a health resort.

The President's interesting, but necessarily rapid, review of the value attached by the fathers of medicine to climate and waters will serve to remind us that there is nothing new under the sun, and also that there were wise men in a generation even more empirical than our own. His passing allusion to the influence of environment on mental reactions is all too brief, and well deserves further elaboration; and the remarks on the influence of climate on national character may give food for thought to those who see in our climate mainly a subject for sardonic humour or idle "grousing." Even our national genius for self-depreciation cannot obscure the fact that the very changeableness and relative absence of extremes of the climate of Britain has bred one of the hardiest and most self-reliant races in the world. There is a real topical interest in the remarks on the dangers of over-radiation. It is possible to have too much of a good thing, and the medical profession knows that the fashionable cult of the sun is not without its drawbacks. All means of treatment that are potentially useful are potentially dangerous if abused, and it is to be hoped that the President's remarks on this subject will reach a wide public. Many holiday-makers spend too much of their time trying to persuade themselves that roasting, however painful, is good for them, and return, from what should be a period of renewal of health and vigour, irritable, enervated, and disappointed.

There are many other parts of the address which deserve careful study, especially by those—and they include nearly every practising member of our profession—who are asked to advise the place in which an invalid or a convalescent can best get what only a change of environment can give. It is certain that the present craving for noise and excitement will pass, and that the reaction will greatly favour those resorts which have preserved their individuality and have not become mere seaside replicas of busy cities. Dr. Watson Smith is no perfervid nationalist; he realizes that there are persons who should be prescribed that complete change of environment which can only be got abroad, but he rightly points out what a wealth and variety of resorts we have at home, in no way inferior to those on the Continent. His suggestion that this great national asset (largely undeveloped, as the Minister of Health recently said) should be cultivated and promoted by public authorities, is well worthy of the attention of our profession, from which the impetus should come; and the same remark applies to his demand for more convalescent homes for all classes of the community.

The President's graceful tribute to his predecessor in 1891, Dr. Roberts Thomson, will be welcomed not only by the older citizens of the town for which he did so much, but by those senior members of the British

Medical Association who remember him both as a dignified President of the Association and as a devoted and very efficient Chairman of Council. We trust it will not be considered an impertinence if we supply two omissions in an admirable address. In the enumeration of the things which contribute to the happiness of the mind which all well-ordered health resorts should supply the President surprisingly did not mention music. Bournemouth has a very honourable record in this matter, for during many years, at great expense, it has created and maintained an orchestra of national reputation, and has generously supplied real music which has been a source of happiness to large numbers of its grateful visitors. And is it not desirable that at this time it should again be put on record that it was at Bournemouth that a celebrated seeker after health, Robert Louis Stevenson, wrote one of the finest tributes ever offered to our profession in the dedication of his volume *Underwoods*?

COMPILATION OF PHARMACOPOEIAS

The chairman's address to the British Pharmaceutical Congress this year, which was delivered by Dr. C. H. Hampshire, contains a very interesting comparison of the national pharmacopoeias of European countries. The occasion was opportune because no fewer than eight countries, including our own, have published new pharmacopoeias during the last four years. Dr. Hampshire pointed out that the character of pharmacopoeias has altered essentially during the last two centuries: whereas they were originally collections of recipes, to-day they are books of standards. The contents of pharmacopoeias also have changed fundamentally during the last half-century, since the number of crude organic drugs or galenicals has decreased, while synthetic drugs, hormones, and sera have been introduced in steadily increasing numbers. The aim of a modern pharmacopoeia was stated to be to " reflect the best knowledge of the time in the medical, pharmaceutical, and chemical fields." This definition will meet with general approval, but the attainment of this standard is beset with certain difficulties.

A consideration of the history of drugs shows extraordinary waves of fashion in their mode of use and their popularity, and the problem is how to keep abreast of modern methods and yet to avoid introduction of substances which enjoy an ephemeral popularity and then fall into disuse. Fortunately violent revolutions in therapeutics are becoming less frequent because the subject is more and more based upon scientific evidence instead of upon authoritative statements. On the other hand, the technical and literary efforts of pharmaceutical manufacturers have introduced a new disturbing element. It is, however, satisfactory to learn that there is a very fair measure of agreement between different countries in regard to the compilation of pharmacopoeias. An interesting comparative analysis of the eight recent national pharmacopoeias presented by Dr. Hampshire shows that although some countries are more conservative than others, yet on the whole the pharmacopoeias have been compiled on fairly uniform principles. Curiously enough the Swiss Pharmacopoeia contains the largest number of monographs (1,148 as compared with 587 in the *British Pharmacopoeia* of 1932), and also contains a high proportion of crude vegetable drugs, galenicals, and compounded preparations. On the other hand, the Spanish Pharmacopoeia is mentioned as being one of the most satisfying and instructive of the modern pharmacopoeias. This contrast is remarkable, since Switzerland is the special home of the synthetic drug trade. The virtual correspondence between modern pharmacopoeias naturally raises the question of the practicability of an international pharmacopoeia. This project was started in 1874, and a pharmacopoeia was actually prepared in 1885, but the book never came into use in any country, and was forgotten. Since then attention has been concentrated on obtaining international uniformity regarding the more potent drugs, and a large measure of success has been attained by the two international congresses, in 1902 and 1925. Unfortunately, however, no permanent machinery has been evolved. It was hoped that the League of Nations would take over such work, but this has not yet been arranged.

The substantial agreement that occurs in practice between the pharmacopoeias of different countries is a gratifying proof of the international character of modern medical science. Many and obvious difficulties stand in the way of establishing an international pharmacopoeia, but there is no doubt that unification of standards would be greatly accelerated if there were any form of permanent international organization which interested itself in this work. The international conferences on vitamin standardization have proved how much can be accomplished in the unification of standards, and we may hope that before very long the Health Organization of the League of Nations will find it possible to set up a permanent organization to encourage and facilitate international agreements regarding pharmacopoeial preparations in general.

SIR ROBERT MUIR

The current issue of the *Journal of Pathology and Bacteriology* (July, 1934, xxxix, No. 1) is published in honour of Sir Robert Muir, on the occasion of his seventieth birthday, and is composed entirely of papers by his former pupils. This admirably conceived tribute gained even further by the circumstances of its appearance, for every member of the Pathological Society received his copy on July 5th, the day of this anniversary, and we understand that for Sir Robert Muir himself its arrival on his birthday morning was the first intimation that the next issue of this journal was to contain any unusual feature. The career which this volume is designed to honour is one without any exact parallel among British pathologists in this generation. During his thirty-five years' tenure of the chair of pathology at Glasgow Sir Robert Muir has raised this

school to a commanding position. He has himself made notable contributions to knowledge, particularly in studies of immunity and of the metabolism of haemoglobin and bile pigments. His influence has contributed largely to securing due recognition and independence for the study of pathology, and to according it a proper place in the medical curriculum. But it is as a teacher that his greatest work has been done. The surest tribute that can be paid to a teacher in any branch of medicine is that his pupils, after graduation, should return to that branch as their life's work. If they are then encouraged and inspired to embark on the difficulties of original research and an academic career, the achievement on the part of the man shaping their destinies is greater still. It is to this that the school of pathology in Glasgow owes its present unequalled reputation. The pupils of Sir Robert Muir have carried the influence of Glasgow far and wide, and they are to be found as teachers of pathology in many places. It is because the careers of his pupils represent their teacher's highest achievement that the present tribute to him is so singularly appropriate. Of the authors of the twenty papers which it contains, ten are occupants of chairs of pathology or bacteriology in medical schools in Great Britain. We congratulate the editors of the *Journal of Pathology and Bacteriology* on a happy epitome of one of the great careers of this generation, and wish Sir Robert Muir many more years in which to enjoy the honoured position he has reached.

"THE BOOK OF BOURNEMOUTH"

Every member attending the one hundred and second Annual Meeting of the British Medical Association this week has received a copy of the *Book of Bournemouth*, edited by the President-Elect, Dr. S. Watson Smith. This is a very handsome and well-produced volume, reflecting great credit on the editor and his able fellow contributors, and on the publishers, Messrs. Pardy and Son of Bournemouth. For many years past it has been the custom to publish a book on the town in which the Association meets, and all who turn its pages will agree that the *Book of Bournemouth* is one of the best of a long series. For this result due praise must be given to the Bournemouth County Borough Council, which has generously borne the cost of production. The blue binding, with gold crest and lettering, is most attractive, and within the covers are delightful maps drawn by Dr. E. G. R. Grant. The frontispiece is a portrait of the President-Elect, and this and the many other illustrations form a notable feature of the book. Indeed, all the photographs, sketches, and old prints are admirably reproduced, so that apart from the interest and literary merit of the letterpress this volume will be treasured as a memento of the Annual Meeting of 1934. "Each article," writes Dr. Watson Smith in his preface, "is an individual piece of descriptive writing; together, the various essays picture one of the most naturally beautiful and historically interesting parts of England." Each of the twenty-two essays, as well as the "index of places of historical interest and natural beauty in the neighbourhood," deserves individual notice, but space permits brief mention of only a few. The geology, geography, and natural history of the Bournemouth area are attractively described by local experts, and the editor himself writes on climatology, on hospitals and benevolent institutions, and on Bournemouth in 1934. The history of "the queen of watering places" is sketched by the borough librarian, and the development of Bournemouth as a health resort by the medical officer of health, Dr. H. Gordon Smith. Mr. Herbert Druitt contributes learned notes on early Christchurch, and Dr. Le Fleming conveys the spirit of Wimborne within less than two pages. Mr. Clive Holland writes on the literary associations of Hampshire and Dorset, and Mr. Stanton on the place names of the two counties. Other articles are devoted to Cranborne and Cranborne Chase, to Poole past and present, to the New Forest and the Hampshire Avon, and to the Purbecks and the lakeland of Dorset. Altogether a charming book, of much historical interest.

ANNUAL REPRESENTATIVE MEETING

Gorgeous skies and inviting beach were not able to seduce the representatives from their hard labour in the Town Hall at Bournemouth. The Representative Body sat more closely to its business than at any meeting of recent years, its programme being a full nine-hour day, with two very brief intervals. Yet in spite of this full pressure, the state of the agenda on Saturday evening caused the chairman some anxiety. Whenever a speaker had begged an extension of time this had readily been accorded by the meeting, until at length the chairman, Dr. Le Fleming, said that he would be compelled, in the interests of the important matters yet to come forward, to overrule such generosity. It can safely be claimed that no other professional or technical body at its annual conference allows itself so little relaxation or sits so continuously to its task. Moreover, some of the best debating this year has taken place during the later stages of the meeting, when passing from preliminary and domestic matters to subjects of wider concern, such as medical education and public health. Indeed, one representative was so exhilarated that he proposed that the Representative Meeting should sit on Sunday, a proposal which found no favour. At the Representatives' Dinner the chairman remarked on the fact that although there were nearly a hundred representatives attending the meeting for the first time, very few fresh voices so far had been heard. It was certainly true that the honours of debate remained with the seniors, and in particular with a former Chairman of the Representative Body, Dr. Hawthorne, who won fresh laurels for platform mastery. Whether he appeared as Chairman of the Ethical Committee, pressing recommendations in face of not a little dissent, or, having doffed that mantle, as the principal dissenter against other recommendations of the Ethical Committee, he was equally persuasive as an orator and formidable as an opponent. As a little example of his readiness in repartee one

incident which convulsed the meeting may be quoted. He was in the midst of a speech when he heard an ejaculation below him which he at first took to be a question or challenge to his statements. Realizing after a moment that what was taking place had nothing to do with the debate, he remarked, in all good humour, "Oh, I am sorry to have intruded into a private conversation!" The impression remains that, with Dr. Hawthorne's dialectical skill, Sir Henry Brackenbury's logic, and Sir Robert Bolam's incisive argument, they have been days of triumph for the elders. With this meeting Dr. Le Fleming reached the end of his period of office, and we may be allowed to add a word to the many said at Bournemouth in praise of his admirable conduct of the business of the Representative Body during the past three years.

THE REPRESENTATIVE BODY RELAXES

It is perhaps a truism to-day to say that each Annual Meeting is unique. But this quality of uniqueness depends as much as anything else upon the locality of the meeting. The doctor is always a good host because he understands the psychotherapeutic value of benevolence, and to his own colleagues he gives the outward semblances of benevolence—good food and wine, good company and entertainment—without stint and with both hands. At the end of a hard Saturday's work in the Annual Representative Meeting, during which chiropody had its full share of attention, he forgot the penalties of dancing in ill-fitting shoes in the pleasant entertainments offered by the Bournemouth Medical Society at the Burlington Hotel, Boscombe, and by the British Dental Association at Branksome Towers Hotel. If corns and bunions were to develop, there was always the comforting assurance that his fellow representatives, who had refused a measure of recognition for the chiropodists, would offer him expert advice and treatment. On the Sunday the civic authorities of Poole showed that in the matter of hospitality they could meet the medical profession on its own ground, and the representatives and their wives enjoyed to the full the delightful excursion round Poole Harbour arranged by the Mayor and the Corporation of Poole. Some 400 guests went by motor-coach by way of the lovely avenue to Branksome Chine, Cliff Walk (on foot), and Canford Cliffs—pausing to inspect the Sandbanks Bathing Pavilion—to the municipal buildings of Poole, where they were welcomed by the Mayor, Councillor W. C. J. Shortt, J.P. After a lunch, at which both appetite and calories were admirably provided for, the Mayor toasted the British Medical Association in a brief and gracious speech. Extending to his guests a hearty welcome to Poole, he reminded them that the Romans had used its waterways some 2,000 years ago, and that since then it had played an important part in naval and military history. Replying to the toast the Medical Secretary, Dr. G. C. Anderson, having classified succinctly—and, to judge from the laughter, not inaccurately—the various ways in which the representatives attended to the business of the Annual Representative Meeting, paid a handsome tribute to the *Book of Bournemouth*. After Dr. Anderson had concluded his speech by expressing thanks for the hospitality of the Corporation of Poole, Dr. Le Fleming proposed the toast of "The Borough." Poole, he said, had suffered many invasions in the course of its history, but this visit of the British Medical Association must be counted as one of its major incursions.

INCREASED MORTALITY FROM DIABETES

A statistical study of diabetes mellitus has recently been published in the *American Journal of Medical Sciences*,[1] in which the physician Joslin co-operates with two statisticians from the Metropolitan Life Insurance Company. In this way a really important and balanced picture of the incidence and mortality of diabetes has been produced, essentially based on a study of American and international statistics, but leavened and weighed by the experience of matured clinical judgement. The conclusion to be drawn is clear from their facts—namely, that diabetic mortality is increasing all over the civilized world. The authors offer no explanation of the phenomenon. The first article, on characteristics and trends of diabetes mortality, clearly reveals how diabetes is becoming more and more prevalent throughout the world. As a cause of death in the United States registration area it has advanced from twenty-seventh in rank in 1900 to ninth in 1932. In practically every European country there is a comparable increase, and countries of European descent, like New Zealand and Australia, share in it. There is a clear tendency in Europe for Teutonic peoples to suffer more frequently from diabetes than the Latins. In England the recent death rates are the highest on record, that of 1931 being 29.5 per cent. higher than in 1925, and 45 per cent. higher than in 1920. This rise in the registered diabetic death rate is nothing new, and has been progressing fairly uniformly since at least 1900. It shows two periods of check in most countries—first, towards the end of the war, and, secondly, during the early years after the general use of insulin. But of late years, in which the employment of insulin has been more efficient and widespread, the mortality rate has been higher than ever. Does this mean that insulin is at least statistically ineffective, or is there some other explanation of the mounting death rate? The authors supply further statistics of interest and importance on these questions. The increase in diabetic mortality is only in the latter decades of life, from 45 years onwards. Below this age the death rate has actually declined. It is certain that the previously most fatal and quickly progressive types of diabetes—in children and in early adult life—have been definitely checked and diminished by insulin. The death rate in young diabetics has fallen by more than half. Still more striking is the difference in sex mortality. Some twenty years ago more men died from diabetes than women, and the death rate in males has risen very little. In women under 35 there is also no recent increase, but in later life a very substantial rise has taken place, until at the age of 65 the number of female deaths is twice that of males. This is true in America of both white and coloured people, and in England and in most of North-West Europe. As regards countries and races has been in the most "civilized" countries. America where trustworthy statistical evidence is available, this indicates that the greatest increase in diabetic deaths

[1] *Amer. Journ. Med. Sci.*, December, 1933, p. 753, and April, 1934, p. 433.

leads the race, and on the present figures it is computed that over 2.5 million persons, or 2.1 per cent. of the population, will eventually succumb to diabetes. It is again apparent that the death rate among Jews is much higher than among Gentiles. But this is true only of ages over 55 ; in the young there is no difference between the two groups. It is interesting to note that in Ireland the diabetic death rate is low, whereas in the American Irish it is unusually high : the standard of living of the latter is better, and an unusually large proportion are engaged in the liquor trade. The statistics on occupational incidence are clear and interesting. The labourer and the manual worker have the lowest death rate ; that of the professional man and the mental worker is much higher ; and the list is headed by persons occupied in the distribution of food and drink. The mortality of hotel keepers and publicans is the greatest recorded for any occupational group (England and Wales). A discussion by the authors on the factors influencing the incidence of diabetes will be awaited with interest.

A NEW DIAGNOSTIC TEST FOR CANCER

Laboratory tests with which it is claimed that cancer can be diagnosed are usually performed with the patient's blood. That proposed by Aron[1] employs the urine, a material which was chosen on the assumption that the abnormal metabolism, or alternatively the degeneration of malignant tissue, should liberate bodies which may be excreted by the kidney. The indicator chosen for demonstrating the presence of these hypothetical bodies is the adrenal gland of the rabbit, the argument here being that this organ is highly susceptible to toxic influences of many kinds. The precipitate obtained when about a litre of urine is treated with alcohol is redissolved and injected into a rabbit in divided doses on several successive days, the animal being killed on the day following the last of these. The " cancer reaction " consists in the partial or complete disappearance of lipoids from the cortex of the adrenal, and was obtained in all but two of a series of cases of malignant disease when a sufficient amount of urine was used for the test ; earlier attempts with smaller volumes were not always successful. Control urines from normal individuals, pregnant women, and patients with a variety of other diseases gave negative results. As a diagnostic test it would appear from this information that the procedure is of some service, though one would like to know the extent of the growth which must exist before the test becomes positive: a method which is only reliable in the advanced stages of cancer can be of little value. Since urine is so much more readily obtainable in large amounts than blood, it is perhaps also permissible to suggest that some attempt might be made to fractionate the material obtained from it, with the object not only of concentrating the active substance in it but of gaining some idea of its nature. Some such extension of Aron's observations seems all the more necessary because he goes altogether beyond proposing what is, after all, a purely empirical test. Apparently the serum of a rabbit previously treated with urine from a case of cancer will prevent the cancer reaction in the adrenal of a second rabbit treated with the same urine. This protective effect can also be exerted by the serum of the patient from whom the urine is obtained. These observations, and the (tentative) use of the term " antibody " in connexion with them, place the whole matter on an altogether different footing, and it is clearly necessary to inquire further into the basis of these phenomena. An early step which we think should be taken is to study the nature and mechanism of the change in the adrenal cortex, and the possibility of eliciting it with other reagents. There appears to be no reason why any material from a patient suffering from malignant disease should have this particular type of effect, and, assuming that Aron's observations can be elucidated in this sense as well as verified, the results might be of interest in directions other than that to which his work owes its origin.

[1] *Presse Méd.*, 1934, xlii, 833.

CO-OPERATION IN MEDICAL EDUCATION

Our readers will be interested to learn that the Governing Bodies of St. Bartholomew's Hospital Medical College, St. Thomas's Hospital Medical School, and Guy's Hospital Medical School have decided to establish a closer co-operation for the advancement of medical education. The medical schools of London have grown rapidly during the last century and a half. They originated in a system of apprenticeship, under which the students became attached to individual members of the staffs of the various hospitals. Later this system came to an end, and organized schools were established. Early in the present century these schools became constituent colleges of the University of London. The range of medical education has now become so wide, and the subjects included in the training of a doctor so complex, that the problems of the teachers are growing more and more difficult. It is to meet this difficulty that the co-operation between the three schools mentioned has come about. The first steps must necessarily be slow. An executive council has been formed, consisting of the dean and four other members of the teaching staff of each school. Meetings, at which subjects of educational importance will be discussed, will be held throughout the year. The decisions reached will be referred to each school for consideration and such action as may be agreed. In order that the co-operation may be as close as possible the dean of each school will be invited to attend the council meetings of the other two schools when subjects of general interest are being reviewed. A further step has been taken. Certain courses of study are being organized for which it is difficult to cater in an individual school, but which can be arranged without difficulty when the students of more than one school will benefit. Further, the students of each school will be permitted, under an arranged scheme, to avail themselves of the clinical facilities of the other schools. In order to allow the scheme to develop gradually, in some instances the arrangements for an interchange of clinical teaching will be restricted for an initial period to St. Bartholomew's and St. Thomas's. When, after some preliminary experience, the organization has become stabilized, similar facilities will be extended to students of Guy's. It is hoped that co-operation on these lines will be of great value to the cause of medical education, and it is felt that the wider outlook thus made possible for the students must be of real benefit to them.

PROLONGATION OF PREGNANCY

Several workers have shown that it is possible to induce ovulation in the rabbit by a single injection of the anterior pituitary substance extracted from the urine of pregnant women. F. F. Snyder[1] has recently reported that ovulation may be caused in this animal in a similar manner during pregnancy. By injecting intravenously into rabbits 40 R.U. per kilo of body weight of antuitrin-S on the twenty-fourth to the twenty-sixth day of pregnancy, it was found possible in the majority of cases to delay parturition until fifteen days after the date of the injection. The foetuses remained alive for three days beyond the normal period of gestation and became post-mature. Their death did not, however, lead to the onset of labour, which was delayed until the end of the life-span of the induced corpus luteum. In some cases the foetuses were retained for several months, and this phenomenon was invariably associated with damage to the uterus caused by their gross over-development. Pituitrin injected at term failed to induce parturition, although 1,000 times the dosage normally effective was employed. In the rabbit ovulation follows coitus, except during pregnancy. In this series of animals ovulation did not follow coitus until fourteen days had elapsed after the injection of antuitrin-S. The author concludes that in rabbits the onset of parturition is governed by the corpus luteum. In women the corpus luteum commences to degenerate during the fifth month of pregnancy. The significance of these results can best be appreciated if the question, Why does an animal go into labour after a fixed interval of time following conception? be changed to, Why does a hollow muscular organ like the uterus retain the products of conception? In the rabbit the corpus luteum hinders expulsion of the ovum, and in every other animal some inhibitory influence must be at work.

[1] *Bull. Johns Hopkins Hosp.*, 1934, liv, 1.

"BRITISH JOURNAL OF TUBERCULOSIS"

Dr. L. S. T. Burrell has succeeded Dr. T. N. Kelynack as editor of the *British Journal of Tuberculosis*. This periodical came into being in January, 1907, and has been conducted ever since by Dr. Kelynack. In the past it has endeavoured to cater for the requirements of lay as well as medical students of this disease, providing articles and discussions on sociological topics as well as on medical subjects. The new editor has had a distinguished career, having been physician to the Brompton, Royal Free, and Royal National Hospitals; he is also consultant physician to the Papworth Village Settlement, Benenden and Midhurst Sanatoria, and an examiner in medicine for the University of Cambridge and the Conjoint Board. Dr. Burrell brings to his new task, therefore, a wide outlook, as well as an exceptionally deep knowledge of tuberculosis in its various manifestations. It is announced that among new features to be introduced into the next volume of the journal, the first issue of which will appear in January, 1935, is the inauguration of discussions of problems of special importance and controversial character. Topics under consideration for this purpose include: the endogenous or exogenous nature of adult infection; why surgical tuberculosis is more common in the child and the pulmonary form in the adult; the tendency in only some cases for the development of laryngitis and enteritis; why the most virulent type of pulmonary tuberculosis is seen in women during the child-bearing age; and cognate veterinary questions. Attempts are to be made to encourage research, and readers are invited not only to send letters for publication, but to suggest problems which might be tackled. Another new feature which will be introduced into each number is a consultation. A hypothetical case will be described, the past history, treatment, present physical signs, and symptoms being given in detail, followed by a discussion of the prognosis and future treatment. Surgical tuberculosis will receive special consideration. The July issue contains a survey of tuberculosis in Wales, with special reference to certain prevailing adverse influences. This is followed by a general review of influences adverse to tuberculous patients, based on an investigation carried out in the county borough of West Bromwich, and bringing into clear relief the importance of the problem of locality in delaying the start of treatment and militating against subsequent maintenance of health. There are also notes on Alpine climate in connexion with laryngeal tuberculosis and a report on gold treatment of the pulmonary form. Dr. Kelynack, to whom the *British Journal of Tuberculosis* owes so much, is continuing his association with it as consulting editor.

MEDICAL INSURANCE AGENCY

A meeting of the committee of management of the Medical Insurance Agency Limited (by Guarantee) was held at the House of the British Medical Association on July 12th, when the report of the Agency's work during the year 1933 and the corresponding balance sheet were adopted. The accounts showed satisfactory progress in the business transacted on behalf of members of the medical profession during the year. In life assurance—an important part of the Agency's work—the results attained in 1932 were surpassed, while in motor car insurance the position was maintained, notwithstanding heavy competition. Fire, household, and miscellaneous insurances have kept at a steady level, both on renewals and in new business. Of the available surplus of £3,297 the sum of £2,937 10s. was distributed to medical charities, as set out below, making a total contribution to the cause of medical benevolence, since the foundation of the Medical Insurance Agency twenty-seven years ago, of £35,625.

		£ s. d.
Royal Medical Benevolent Fund...		1,460 0 0
Royal Medical Benevolent Fund Guild		315 0 0
Epsom College—		
For general purposes	£210	
Dawson Williams Memorial Fund ...	£600	
		810 0 0
Girls' Education Fund		300 0 0
Royal Home for Incurables, Putney		52 10 0
		£2,937 10 0

By noon on Wednesday, July 25th, about 1,100 members had registered at the Reception Room of the British Medical Association's meeting in Bournemouth.

ROBERT JONES NATIONAL MEMORIAL

MEETING AT MANSION HOUSE

A meeting, presided over by the LORD MAYOR, who was accompanied by the Lady Mayoress and attended by the Sheriffs, was held at the Mansion House, London, on July 18th, in support of the Robert Jones National Memorial, inaugurated to perpetuate the life-work of the creator of modern orthopaedic surgery. The memorial proposes to establish (1) a Robert Jones professorship in the Royal College of Surgeons of England, (2) a Robert Jones travelling fellowship, to be elected alternately by the Royal College of Surgeons and (jointly) by the University of Liverpool and the Liverpool Medical Institution, and (3) a Robert Jones national trust, to ensure financial aid for orthopaedic centres or institutions, as and when most needed. The office of the National Memorial is at Quadrant House, 55, Pall Mall, S.W.1, and the appeal secretary is Mr. Charles Steuart.

Messages in support of the appeal were read from the Duchess of York, the patron, the Earl of Derby, the president, and the following among other vice-presidents: the Earl of Athlone, Mr. Stanley Baldwin, Lord and Lady Gladstone, the Earl of Lonsdale, Viscount Leverhulme, and Sir William Wheeler.

Lord MOYNIHAN, chairman of the executive committee of the memorial, said that he was voicing the feeling of the whole medical profession that a national memorial should be created to perpetuate the name and achievements of Robert Jones. His services to humanity were of outstanding merit, otherwise a merely local and temporary reminder would have been adequate. The gifts of Robert Jones not only to the science of surgery but to the art of surgery had been of a character that had surely rendered his name and work immortal. Immortality attached only to the things of the spirit, and it was the gift of Robert Jones to the spirit of surgery, and in particular to that very considerable—perhaps most important—department of it known as orthopaedic surgery, that the national memorial was designed to commemorate. Robert Jones's services throughout the war, when he was—perhaps not very easily—appointed Inspector of Military Orthopaedics, A.M.S., were familiar to everyone. He was one of the two great scientific heroes of the war, and it was the barest truth to say that hundreds of thousands of men owed not only their recovery but their restoration to physical health to the skill which he was able directly to exercise.

"The great thing about a member of my profession," Lord Moynihan continued, "is not his immediate work, but the craft he teaches, the spirit he inspires among those who come after. The lessons taught by Robert Jones throughout the war are now part of the heritage of surgeons all over the world. I may arrogate to myself for the moment a wider responsibility, and in the name of my colleagues across the Atlantic say that they will ever bear the name of Robert Jones in proudest remembrance. He was, in a sense, one of them as he was one of us. His work will go forward in every clinic in the world. There are a few men in my profession for whom we may claim immortality—Harvey, and Hunter, and Lister, the greatest of all. But among those whose names are written in letters of everlasting gold that of Robert Jones will certainly find a place. For the crippled children it was he who opened the gates of mercy and of relief."

The DUCHESS OF ATHOLL, M.P., spoke of the pathos of crippledom. Although the Royal National Orthopaedic Hospital was founded nearly a hundred years ago, she believed that with the advent of Robert Jones came a new stimulus and the beginning of an enormous development. She remembered well the first time she ever heard of him. It was a year or two before the war, and she recalled the wonder and enthusiasm with which a sister at some centre where he visited the children spoke of his work and of the cures he had been able to bring about. But in those days his work was scarcely known outside the medical profession, and his county scheme existed only in Shropshire, the pioneer county in that respect. When the war came it was a very different story, and the tragic need for the development and extension of his work became evident. She was proud to think that for a year or two she was commandant at a tiny outpost of the hospitals embracing 33,000 beds, of which Robert Jones was the head and the inspiration. After the war schemes were established in one county after another, generally taking the form of a central hospital building, with clinics in various parts of the county, which clinics were visited from time to time by an orthopaedic surgeon and a trained nurse to see the children who had been returned to their homes from the central hospital and adjust appliances or prescribe massage as might be necessary. Of the proposals for the form of the memorial she welcomed most of all the national trust, out of which would be furnished financial help to the many counties in England and the many more in Scotland, which had no scheme.

Sir JOHN MARTIN-HARVEY, who also spoke in support of the appeal, mentioned some personal aspects of Robert Jones—his smile which was so reassuring to his child patients, his great kindliness, and his skill which amounted to genius. When the idea of the first military orthopaedic hospital occurred to him he went to the higher command, and on being asked how many beds he wanted, said, modestly, about 250. Before the war was over Sir Robert Jones and the surgeons working with him and under him were responsible for considerably more than a hundred times that number.

Mr. EDWARD HUGHES, chairman of the Rhyl Urban District Council, promised the utmost effort on the part of Rhyl to honour and perpetuate the work of its most illustrious townsman. He mentioned that not only was Robert Jones a native of Rhyl, but that in the hospital there Dame Agnes Hunt, who was so closely associated with him in the work for the cripples, started her career as a pupil nurse.

Sir HAROLD FAWCUS proposed and Mr. ROWLEY BRISTOW seconded a vote of thanks to the Lord Mayor, who, in reply, spoke of his great satisfaction that the Mansion House should take part in furthering the appeal for national recognition, in the form he would have loved, of the work of this great benefactor of humanity.

BRITISH INDUSTRIES HOUSE

SECTION FOR DISPLAY OF HOSPITAL EQUIPMENT

On July 19th the Earl of Derby opened a Medical Centre at British Industries House, Marble Arch, London. The purpose of British Industries House, for the development of Empire trade, has already been described in these pages. The Medical Section includes a complete hospital, occupying 10,000 sq. ft. of floor space, with a 12-bed ward, two operating theatres, a clinical laboratory, an anaesthetic department, sisters' rooms, and the usual accessories. The equipment is complete down to the semicircular sun balcony, the special window glass, the shadowless operating lamp, the taps which turn at the touch of the elbow, the instrument sterilizer, and, in the clinical laboratory, the standard bench and fume cupboard, the balances, calorimeters, centrifuges, and the general material for bacteriological and clinical work. What is claimed to be the most up-to-date hospital in the world is unique in one respect—that it has no patients. It is intended to afford to those interested in the purchase of hospital equipment the opportunity of inspecting modern furnishings and other commodities under one roof instead of having to visit scattered centres of manufacture. The hospital has been constructed from the plans of the architects (Adams, Holden, and Pearson) who are responsible for the new Westminster Hospital. In addition to the hospital there is in the Medical Section a wide range of British-made requisites for medical and surgical work, as well as articles needed on the lay side of hospital maintenance.

At the opening ceremony, which was attended by several hundreds of people, the chair was taken by Mr. H. M. TROUNCER, the chairman of the directors, and among those on the platform were Lord Dawson of Penn, Sir

Humphry Rolleston, Sir Holburt Waring, Sir Crisp English, Dr. E. P. Poulton, and Dr. Alfred Cox, who is chairman of the Advisory Council of the Medical Section.

The EARL OF ELGIN briefly described the purposes of British Industries House in general and of the Medical Section in particular. The house itself, he said, consisted of three departments: (1) publicity and propaganda, (2) exhibition and advertisement of industry, and (3) club and meeting place in which the buyers of the world could be put in contact with the Empire manufacturers. The institution would serve as a clearing-house for inquiries and demands. Only a few days after the negotiations for the section took shape an inquiry was received from an authority which wished to set up a hospital as to where a full range of the necessary equipment was to be seen. The authority could only be informed that it was hoped in course of time that this would be available at the Marble Arch, but it was not to be found elsewhere at present. It was afterwards discovered that the inquirer was charged with the disposal of a contract amounting to about £25,000. In addition to the hospital described above, the Medical Section included showcases and showrooms with a wide range of drugs and instruments.

The EARL OF DERBY said that the organization appealed to him in the first instance as the head of a travel association, because he was sure that nine-tenths of the people who came from abroad to England for pleasure could be induced, if opportunity offered, to do business here as well. He felt that the excellence of home products was not appreciated by many, including those concerned with hospital provision. When it came to a question of ministering to the sick and suffering they must always give them the very best that could be obtained, independently of the country from which it came, but the object of the present exhibition was to suggest that although many of these articles had hitherto been obtained from abroad they could as a matter of fact be obtained in this country equally cheaply and of equal merit. Lord Derby went on to say that he had been connected, more or less as a figurehead, with many hospitals, but years ago he had a closer connexion with the London Hospital, and he knew from experience how difficult it was for anybody who desired to equip a department of that hospital to know exactly where to go to get any particular commodity. He felt that the new department would be of the greatest assistance to all concerned in hospital management, and he had great pleasure in declaring the Medical Section open. The thanks of those concerned were expressed to Lord Derby by Mr. TROUNCER from the chair, and afterwards the guests were conducted by stewards to the hospital block and to the club and inspected the exhibits.

Sir Hilton Young, the Minister of Health, who was accompanied by representatives of the various departments concerned, received a deputation, on July 17th, from the British Association and the Institution of Civil Engineers. The object of the deputation was to invite the Government to give favourable consideration to the institution of a complete and systematic survey of the water resources of the country, a subject on which a committee of the British Association had recently published a report. The deputation suggested that the existing records both of surface water, including river run-off, and of underground supplies were very incomplete. It urged that systematic records comparable with those of rainfall were much to be desired and that a national survey was necessary in order to obtain statistics of this nature. The Minister, in reply, thanked the British Association and the Institution of Civil Engineers for the consideration which had been given to the matter, and said that their suggestions would receive the most careful consideration of the Government. Sources of information were available through the Ministry of Health, the Geological Survey, and the Catchment Boards. It was for consideration whether the progress which was to be desired in the collection of statistics could not best be achieved by improving the existing means of gauging the flow of rivers and by improvements in the method of collecting and presenting returns.

Scotland

New Glasgow Professor

The vacancy in the chair of midwifery at the University of Glasgow, created by the retirement of Professor J. M. Munro Kerr, has been filled by the appointment of Samuel James Cameron, M.B., F.R.F.P.S.Glas. The appointment lies with the Crown, and the King has approved of this selection. Professor Cameron is the son of the late Professor Murdoch Cameron, who occupied the same chair for many years until he retired in 1927. He is a graduate of Glasgow University, and has held numerous obstetric appointments in that city, being obstetric surgeon and gynaecologist to the Glasgow Maternity Hospital, and consulting obstetric surgeon to the Lanark County Council's Hospital at Bellshill and to the Motherwell Maternity Hospital, as well as consulting obstetrician to the Maternity Hospital in Perth. He is one of the gynaecologists to the Western Infirmary, Glasgow, and examiner in obstetrics to the University of St. Andrews. Professor Cameron has published the results of much research work in *The Manual of Gynaecology*, which went into a third edition in 1928, and in numerous contributions to the medical journals.

Edinburgh Medical Graduation

At the medical graduation at Edinburgh University, on July 18th, Principal Sir Thomas Holland, who presided, handed the Cameron prize in practical therapeutics to Emeritus Professor Sir E. Sharpey-Schafer, in recognition of the advances in therapeutics that had arisen from his discoveries in endocrinology. Professor A. J. Clark, in his address to the 128 new graduates whom he had presented for the degree of M.B., Ch.B., discussed the rapid development of modern medical science and its influence on the future of the profession. It had been their privilege, he said, to study medicine during a period of intensive growth, but this had carried with it the penalty of receiving a medical education which was somewhat of a makeshift, hurriedly adjusted to a rapidly changing body of knowledge. It was to be hoped that medical science would make as great advances in the immediate future as it had done in the recent past, and that the necessity for post-graduate education would be adequately realized. During the last century the death rate had fallen steadily, and the popular standards of health had risen in a remarkable fashion. The public was beginning to expect the medical profession to teach it how to maintain a condition of physical fitness, and the prevention of disease was becoming one of the chief functions of the doctor. This tended to make the practice of medicine both more difficult and more interesting. The change in the nature of the services demanded by the public increased the importance of treatment, since diseases would be seen more frequently at an early and curable stage. It was possible to estimate, with a fair degree of certainty, the composition of the population ten or twenty years hence, and it was clear that that population would be one with relatively fewer children than in the past, and with an ever-increasing proportion of old people. The fewer children there were the more precious would they be, and the more dependent would be their parents upon professional advice. On the other hand, the steady rise in the number of persons over 65 was bound to have a marked effect on medical practice, for the human body, as the result of the wear and tear of life, would require increasing attention in old age. The degree of Doctor of Medicine was awarded to sixteen graduates, and that of Master of Surgery to one. Three candidates received the degree of Doctor of Philosophy in medicine, and one in

science ; while eight diplomas in public health, five in tropical medicine, one in psychiatry, two in radiology, and three in tropical veterinary medicine were awarded.

Research in Animal Diseases

At the annual general meeting of the Animal Diseases Research Association, held at Moredun Institute, Gilmerton, Edinburgh, Dr. J. Russell Greig, director of the institute, said that the results obtained from the investigation of animal disease were important to those who studied the diseases of man, and there was close collaboration between the medical and the veterinary research worker on the staff and the committee of the institute. During the short time that the institute had functioned control had been obtained over such diseases as lamb dysentery, braxy, louping-ill, milk fever, iron deficiency, pine, and lactation tetany. The institute had a wide programme of research, but promising lines of work had often temporarily to be laid aside, because other urgent problems arose which required immediate study. Among the latter was grass-sickness, which claimed the whole resources of the institute for a certain period of the year when acute cases occurred. This disorder must be regarded as a national scourge, and it was proposed to allocate to it the whole time of a trained worker. The institute needed more staff and further accommodation. An adequate extension would involve a capital expenditure of £10,000, which might be regarded as a small sum in relation to the losses suffered by agriculture through animal disease and death.

Pathology in Scottish Mental Hospitals

Changes have been made in the administration of the Scottish Mental Hospitals' Pathological Scheme, closer association having been effected with the University of Edinburgh, and especially with the departments concerned with the teaching of clinical psychiatry, neurology, and clinical medicine. Accordingly, Dr. A. Murray Drennan, who is professor of pathology in the University, became director of the scheme at the beginning of last year, and in the following October Dr. J. Henry Biggart was appointed pathologist. In the thirty-sixth report of the scheme, covering the years 1932 and 1933, Professor Drennan describes the working of the new arrangements. A new method of filing and indexing the various specimens has been instituted whereby a permanent collection of specimens, microscopical slides, and case reports will be correlated. Eventually, various series of the different diseases affecting the brain will be obtained, and with the correlation of symptoms and pathological changes will provide an opportunity for increasing knowledge of cerebral function. A filing cabinet for demonstration slides for teaching purposes has been built up: as material accumulates a complete demonstration of the various cerebral lesions will become available. It has also been thought desirable to build up a few demonstration collections, which could be lent to those wishing to take the examination for the diploma in psychiatry. A course of lectures and demonstrations on the pathology of the nervous system for senior undergraduates, post-graduates, and candidates for the M.R.C.P. was begun last January. In the task of improving the teaching material in the laboratory the pathology departments at the University and the Royal Infirmary have co-operated effectively. Since last October thirty brains have been submitted to histological examination, several tumour specimens investigated, and necropsies performed in other institutions. Professor Drennan suggests that at least one necropsy should be undertaken in each mental hospital by the pathologist of the scheme, or, alternatively, that the various assistant medical officers of these hospitals should attend one or more necropsies at some centre so that the technique should be thoroughly mastered by them. Research work is at present being conducted on the anterior and posterior lobes of the pituitary body and the hypothalamus ; material is also being collected for study of the pathological basis of the Argyll Robertson pupil. Professor Drennan appeals for a constant supply of necropsy material from the various mental hospitals ; with the present staff it would be possible to examine about 200 brains each year at the laboratory, and from this work various lines of further research would be indicated with later benefit to the clinician. Mental hospital staffs are therefore asked to supply full clinical accounts when sending such material for examination, and to make suggestions for investigations which would seem to be desirable. Assistance is promised to any medical officers in mental hospitals associated with the scheme who will make themselves responsible for the simple pathological work in these institutions. The hope is expressed that in time each mental hospital will have one of its staff interested and instructed in the pathological aspects of mental disease. There would thus be brought into being a group of workers in touch simultaneously with the clinical problems and the central laboratory of the scheme, and real co-ordinated research work could be undertaken.

Ireland

The Rotunda Hospital, Dublin

The annual report of the Rotunda Hospital for the year ending October 31st, 1933, is the last one to be issued by Dr. Bethel Solomons, whose seven years as resident Master have now terminated. His swan song, he writes, must needs be both glad and sad, yet he endorses the wise provision of Benjamin Mosse that there should be a seven years' rulership only, for thus it can be assured that fresh ideas shall be forthcoming periodically, and that no stagnation be allowed to creep in. During Dr. Solomons's term of Mastership there were nearly 4,000 more women admitted to the hospital than in the previous seven years. He believes this increase will continue in the future, testifying to the confidence of women in the institution and especially its nurses. In August, 1933, the then record number of 243 women were delivered, but this figure has since been exceeded. In the twelve months under review there were 2,650 admissions to the maternity side of the hospital, of whom 2,376 were delivered. The prenatal departments were particularly busy, and the need for a new out-patient department is more than urgent, both for the comfort of the patients and also for facility in teaching this highly important branch. The ampoule or capsule system of chloroform administration has been given careful trial, with very satisfactory results. Dr. Solomons's views about the danger of chloroform are well known. His considered opinion about the ampoule method is that it fills a want ; that, although it can be given during the late first stage in labour, it seems to cause delay if administered then ; and that it is convenient and apparently foolproof. In spite of this, he does not agree that it should be put into the hands of the unqualified—namely, midwives—without supervision. In a large number of cases analgesia in the first stage of labour was satisfactory with a mixture of hyoscine and sodium amytal. There were 132 stillbirths in the year, and twenty-eight of these foetuses were macerated. These figures are considered satisfactory, for of the 104 recent stillbirths no foetal heart beat was perceptible on admission in twenty-four, and thirty were toxaemic. The number of albuminuric patients was 549, as compared with 810 in the previous year, but it is hard to say how far this diminution may be due to better prenatal supervision.

There were ten possible eclamptics, but it is doubtful whether four of these should be thus described. Only three cases of severe vomiting classifiable as hyperemesis occurred; treatment by gastric lavage, starvation, colonic lavage, and rectal and intravenous glucose brought about successful results. There were eighteen cases of placenta praevia without mortality, bringing Dr. Solomons's series up to 138 with two deaths. He maintains that this condition, properly treated, should never be fatal. Only fourteen cases of inertia were recorded, although there were many other slow labours. Spontaneous labour occurred in six, and forceps were applied in eight cases. Caesarean section was never necessary. The treatment consisted of long hot vaginal douches, given twice daily if necessary, much watchfulness, and rest by means of hypnotics. Dr. Solomons repeats his precept that it is dangerous to give pituitary extract to this type of case in a teaching hospital. Of the thirty-one Caesarean sections performed without mortality the classical operation was employed five times, in three for absolute disproportion. The lower segment route was chosen on fourteen occasions; it is described as the ideal operation for the obstetrician who understands the mechanism of labour, and the pronounced semi-elliptical incision is regarded as the best type. There was no death from puerperal sepsis during the year. Dr. Solomons deprecates the wearing of masks in extern work in private houses, and even in hospitals, on the grounds that the unskilled, and even some of the skilled, may be led to overlook the important principles which favour a clean delivery. To the gynaecological wing there were 686 admissions during the year, operation being required in 533. Diathermy continues to be used with benefit in parametritis, but it is remarked that patients also get on very well with the old-fashioned treatment of vaginal douches and tampons of ichthyol in glycerin.

Vital Statistics for the Irish Free State

The birth rate for the first quarter of 1934 was 19.3 per 1,000, representing 14,538 births registered. This was 0.3 above the average of 19 for the first quarter of the five years 1929–33. For Dublin City the birth rate was 27; for Dun Laoghaire, 17.5; Cork, 21.9; Limerick, 25.7; and Waterford, 24.2. The corresponding birth rate for Northern Ireland was 20; for England and Wales, 15; and for Scotland, 18.7. The birth rate for Belfast was 23; for Londonderry, 26.4; for London, 13.3; for Glasgow, 19.7; and for Edinburgh, 16.6. The rate in respect of deaths registered (in number 11,634) was 15.4, being 2.5 below the average of 17.9 for the first quarter of the preceding five years. For Dublin City the death rate was 16.5; Dun Laoghaire, 19.1; Cork, 19.7; Limerick, 17; and Waterford, 15.2. In Northern Ireland the death rate for the quarter under review was 15.9 per 1,000; in England and Wales, 14.7; and in Scotland, 14.3. In Belfast the rate was 15.5; in Londonderry, 16.8; in London, 15.8; in Glasgow, 14.8; and in Edinburgh, 14.7. Deaths from the principal epidemic diseases afforded an annual rate of 0.5 per 1,000, which is 0.1 below the average for the first quarter of the five years 1929–33. The mortality from influenza was equivalent to a rate of 0.4 per 1,000, which is 0.7 below the average for the corresponding quarter of the preceding five years. The rate for deaths from all quarters from tuberculous disease was 1.2 per 1,000, being 0.2 below the average rate for the first quarter of the preceding five-year period. Deaths from puerperal conditions gave a rate of 4.8 per 1,000 births registered, comprising 1.9 for puerperal sepsis and 2.9 for other puerperal conditions, as compared with 1.2 and 4 for the first quarter of 1933. The infant mortality rate was 80, as against an average of 83 for the first quarter of the five years 1929–33.

CORRESPONDENCE

The Scottish Health Services

SIR,—The Scottish Committee deserves whole-hearted congratulation on the very able memorandum of evidence for submission to the Departmental Committee on Scottish Health Services, which was printed in the *Supplement* of July 7th. It is regrettable, however, that the memorandum was not submitted to meetings of Scottish Divisions for consideration, as had at one time been suggested.

The memorandum, I believe, represents very accurately the views of Scottish general practitioners in regard to many matters which have been occupying the attention of the profession in recent years. This is creditable alike to the general practitioner members of the committee and to the others. Other sections of the profession can present their views to the Departmental Committee through agencies that are representative solely of sectional interests—for example, the Royal Colleges representing consultants and the staffs of teaching hospitals, and the Society of Medical Officers of Health. One hopes, therefore, that the Scottish Committee will maintain general practitioner views as strongly as possible in the oral evidence to be submitted to the Departmental Committee.

The community in general and the medical profession in particular are confronted by an appalling increase of bureaucratizing tendencies, especially since the Local Government (Scotland) Act of 1929. These bureaucratizing tendencies have been responsible for many of the difficulties of the general practitioner, particularly in urban areas, and a recognition of this fact is the basis of much of the evidence in the Scottish Committee's memorandum.

Extensions and improvements in the health services of Scotland will involve an increase in the number of administrative and medical officials. The problem before the profession is how to safeguard the community and itself against bureaucratic encroachments. The presence of elected representatives of the profession on the Department of Health and on local public health committees would be such a safeguard.

Administrative convenience and uniformity appear to override in the official mind the truer interests of the community. All the infectious cases of a large Highland county have to be concentrated in a single hospital, and a smaller county has its isolation hospital merged in another hospital outside its boundaries against the unanimous opposition of its representatives.—I am, etc.,

Loanhead, Midlothian, July 16th. W. HAMILTON, M.B.

Ligation of Thyroid Arteries in Toxic Goitre

SIR,—My friends Sir T. Dunhill and Professor Wilkie are, I gather, comparatively recent converts to preliminary arterial ligation in thyrotoxicosis, and in testifying to their changed opinions show that breadth of view which we expect from surgeons of their high skill and mature judgement. I was not only brought up in the faith, but for twenty years have piously practised the operation, yet I believe that the effect of your correspondents' letters would be to produce, in the minds of those less experienced than themselves, too optimistic a view of the value of the procedure.

Such benefit as accrues is independent of anything but the resulting diminution of blood supply, for there appears little to justify its ascription to ligation of associated lymphatics or nerves. If, then, the superior thyroid arteries carry a large percentage of the total arterial blood the benefit is in proportion, but if, as is

so often the case, the inferior arteries are the larger, the result is often disappointing; there is little or no clinical evidence of a fall in the activity of the toxic process or of favourable changes as estimated by basal metabolic and impedance angle tests. It must not be forgotten that, minor operation as it is, it has an appreciable mortality, and there is a by no means negligible minority in which the operation either aggravates the progress of the disease or at any rate entirely fails to check it.

The main value of ligation of the superior thyroid arteries is, I believe, as a test of the patient's susceptibility to surgical trauma, particularly in primary thyrotoxicosis associated with a large, intensely vascular goitre and great nervous excitability. If, as may happen, this trivial operation, conducted under local anaesthesia and occupying less than ten minutes, is followed by an intense post-operative reaction, then it clearly indicates that the major procedure would have been too hazardous.

At the Annual Meeting of the British Medical Association held in Edinburgh a few years ago, I heard the facile statement made that pre-operative iodine therapy had solved the problem of mortality in thyrotoxicosis. I did not believe this, nor do I believe that it can be solved entirely by the preliminary ligation of arteries.—I am, etc.,

London, W.1, July 21st. CECIL A. JOLL.

Principles of Gynaecology

SIR,—I shall be grateful if you will allow me, on behalf of my collaborators—Mr. Datnow and Mr. A. C. H. Bell—and myself, to express our appreciation of the thoughtful and interesting review of the recent edition of *The Principles of Gynaecology*, which appeared in the *British Medical Journal* of July 14th (p. 65).

A textbook, your reviewer realizes, should be more than a sodden repetition of former views and methods, for science does not stand still: it should be not only a comprehensive and digested summary of our knowledge, but also an analysis and cinematograph of moving events. But what difficulties face those who undertake the task of incorporating intelligibly settled facts in a large tract of partly explored and ever-expanding territory! We feel, therefore, that, in saying our work will beneficially influence gynaecological thought, teaching, learning, and practice, your reviewer has said all we could wish him to say, for that has been our object from the first.

Your reviewer is curious to know why in this edition Part II (examinational methods—previously Part III) is interposed between Part I (anatomy) and Part III (physiology—previously Part II). This is easily explained. Many functional conditions (Part III) require examinational methods (Part II) for their elucidation. The anatomical phenomena (Part I) require chiefly dissectional methods.

To one knowing, as I do, the improvements which could be made, and which will be made in the next edition, your reviewer's choice of subjects for comment is a little surprising. Moreover, he seems sometimes to think that too much has been given, yet he asks for more! He writes:

> "Here and there, however, broad principles are lost in detail. Thus the meaning and implications of the reduction of chromosomes during maturation are lost in describing the manner of their reduction. Neither among the possible causes of abortion nor under 'selective sterility' is there any reference to lethal gametic combinations, well recognized as cause of loss of zygotes in breeding experiments."

As a matter of fact, "the manner of their reduction" is not described at all, and brief mention only is made of reduction in respect of maturation of the ovum, and of the relation of sex chromosomes to sex differentiation in *Drosophila*. It is presumed that the subject of genetics, which is of such fundamental concern not only to gynaecology but to all branches of medicine, is taught earlier in the curriculum. On the other hand, in regard to the clinical implications to which reference is made, I would point out that special attention is drawn to malformation of the embryo as a cause of early abortion; so, as everyone knows that this may be ascribed to "lethal gametic combinations," it can hardly be said that there is no mention of them. Besides, to have discussed selective sterility in the human subject in relation to the same factors would probably have been erroneous; we should have to go back to *Ciona* for a possible biological (but not chromosal) explanation, with which I need not now trouble your readers. The one given is not unsound, and is of sociological importance

With regard to the word "ponation," to which exception is taken, it is generally conceded that language is given to us to express not only our thoughts but also the facts of the physical universe, in which removal of the whole uterus from one place to another is an event well known to gynaecologists. It has no other name, yet it is of diagnostic importance. Why should it not be so identified to *avoid confusion*, not to create it? Anyway, "ponation" has appeared in every edition of *The Principles of Gynaecology*, including the first (1910), and has never before been challenged. We all know, of course, the past participle of *pono*, but are reluctant abstractly to "depose" the uterus. The Americans have, however, gone one worse, for they have quite recently introduced the horrid term "cession"; they speak of "retrocession" in this connexion.

Last, concerning the beginner's sense of proportion, in all seriousness I would ask whether he is likely to boggle at *three pages* only (excluding illustrations) on the important subject of hermaphrodism, or at *one and a half pages* on lead therapy? We hope that your reviewer's remarks, generous though they are, will not discourage the student from taking advantage of the high opinion we have of his desire to learn.—I am, etc.,

West Felton, July 17th. W. BLAIR-BELL.

Tuberculin

SIR,—May I endorse Dr. Camac Wilkinson's request for an impartial investigation into the tuberculosis problem. Almost every day there is evidence in the medical journals pointing to a grave lack of co-ordination between the organizations dealing with the disease, and there would seem to be apathy prevailing at the centre of control. I understand that there *is* a department of the Ministry of Health which has the right of inspection of such organizations. If this is so such a department will presumably collect a good deal of valuable and irrefutable evidence of the value of certain methods of attack. Surely it should pass on this information to all local centres.

Two topical instances will illustrate my point. (1) The list of experts and others who, as the result of *ad hoc* research, give tuberculin a high value in their armamentarium grows more and more formidable, and yet after forty years there are Government centres for tuberculosis which ignore its use. (2) We are indebted to Dr. Hope Gosse and Dr. Erwin for recording the valuable advice that sunbathing may be prejudicial to the tuberculous diathesis (*British Medical Journal*, July 7th). This fact would appear to be contrary to public opinion as educated by the daily press, etc. I think it is pertinent to ask whether the appropriate department at the Ministry of Health has seen this article, whether it believes the

conclusions drawn, and, if so, does it intend to pass on the advice to all tuberculosis centres under its control so that public opinion may be enlightened?

Apart from Royal Commissions, eulogistic conferences of voluntary associations, and personal opinions, it is easy to appreciate that we must have more co-ordination of official work if further progress is to be made in the conquering of the disease.—I am, etc.,

Greenford, Middlesex, July 16th. ALISTAIR R. FRENCH.

SIR,—As Dr. Bardswell is, and has been for many years, one of the best-known tuberculosis experts, it would be absurd of me to offer an opinion contrary to his. I was his senior assistant at King Edward VII Sanatorium in 1909–10 when the work on tuberculin was being done, and I remember how disappointed I was when we stopped giving it. I had got most enthusiastic about it, and thought it a mistake to give it up. When at Benenden Sanatorium I used it extensively, and as tuberculosis officer for Essex I carried about four or five different tuberculins to the dispensaries and sanatoria under my care. The doctors were surprised that, as Dr. Bardswell had condemned it, I should go contrary to his teaching. Now I—like, I suppose, 90 per cent. of my colleagues—never use it. Why? Simply because I now believe with Dr. Bardswell that it has proved of no use. Imagination and tuberculin are good bedfellows. For Dr. Camac Wilkinson to write and tell the profession that we other specialists take no trouble to work at the size of the doses, etc., is, to my mind, quite absurd. It is, if my surmise is correct, putting him and his few followers on an unjustifiable pedestal, and letting his genuine enthusiasm run an academic riot. Before artificial pneumothorax became popular we all, only too willingly, would have tried and continued to use anything to help our patients, and there must be a very large body of able and conscientious tuberculosis men who worked as hard as Dr. Camac Wilkinson did and yet never use tuberculin now. Its diagnostic value is practically *nil*, and therapeutically it is, in my opinion, as valuable as Dr. Bardswell dramatically described it the other day.—I am, etc.,

Lexden, Colchester, July 18th. J. D. MACFIE.

SIR,—When I was in the West of England last January a friend of mine was lamenting the fact that all his pulmonary tuberculosis cases died, and made this remark: "I feel that something is being withheld from the public which they ought to have." He was perfectly right. Dr. Opie of America said tuberculin dispensaries should be opened in this country. Dr. Bredeck, in the *American Review of Tuberculosis*, April, 1933, writes:

"The Schilling blood count, together with the subcutaneous tuberculin test, constitute, in my experience, our most delicate and most accurate methods in the diagnosis of early manifest and induced focal activity."

To this should be added a medical history, taken with laborious care and by doctors with several years' experience in general practice. The solution of the early diagnosis of pulmonary tuberculosis lies in the triad—tuberculin, blood picture, and history of the patient. No other method will detect the first results of allergic tissue activity, caused by the action of the bacillus.

In Wingfield's *Textbook on Pulmonary Tuberculosis* (p. 342) is the following statement:

"The patient must be under close and skilled clinical supervision during a course of tuberculin treatment. It must not, for instance, be undertaken by the ordinary physician unless he has made a special study of the disease and treatment. A complete temperature and pulse record must be kept, with weekly weighings. There must be constant supervision of symptoms, none of which must be ignored."

The Local Medical Committee of the London Insurance Committee has decided that the administration of tuberculin "requires no special skill or experience." The Minister of Health has agreed with this decision.—I am, etc.,

Hayes, Kent, July 13th. H. S. BURNELL-JONES.

Thrombosis of Internal Saphenous Vein

SIR,—I attended a strong, healthy man whose history was that on the previous day he had been helping to unload a lorry, a crate had slipped, and he had felt some pain over the inner side of his left knee-joint. On examination it was seen that he was suffering from traumatic phlebitis with thrombosis of the internal saphenous vein as it was passing over the joint. The clot was about three-quarters of an inch long. He was kept in bed exactly three months; the clot had diminished down to the size of about a split-pea, and felt hard. I thought that this must be fibrous tissue and that it would be safe to allow him to get up, so his wife got out all his clothes ready for the morrow, which was his birthday. At midnight she heard a gurgle, etc., in his throat, and on examination he was found to be dead. He was such a strong, healthy-looking man that this tragedy gave me cause for reflection, and I formed the opinion that in cases where it is possible to ligature the vein proximal to the clot this procedure appeared desirable. When it is impossible to reach the healthy vein above, then it should be cut down upon at the site of the thrombosis; its contents being thus freed from tension the production of embolism would be less likely. The cutting down on a clot becomes inevitable should there be the slightest suspicion that secondary infection has occurred.

In the following patients proximal ligation without incision over the thrombosed area was performed, and gave me an additional sense of security throughout their favourable convalescence.

The first case was that of a lady over 65 years old. The same vein became suddenly thrombosed from no apparent cause. After consultation, Mr. R. Kennon of Liverpool agreed to cut down on the internal saphenous vein in the thigh, ligature it in two places about two inches apart, and remove the portion of vein in between: uninterrupted recovery; stitches removed on tenth day; patient was up on the fourteenth day, although the thrombus seemed just about the same. She gradually got about, although it was months before the thrombus had all disappeared; in the meantime she went about her daily work as usual.

In another case a lady, aged 46 years, had been shopping in town during a cold winter's day, and felt pain on the inner side of the knee-joint and just below. When she got home it was found that part of the vein was thrombosed. Mr. Kennon advised that a pad should be placed over the proximal part of the vein and strapped firmly round the thigh. A few days later, whilst she was being visited, she suddenly collapsed; all blood left her face, which turned ashen grey; breathing was irregular and jerky, and she lost consciousness. Deep and vigorous cardiac massage, accompanied with upward pressure under the left costal margin, was immediately begun, fortunately with good results. Mr. Kennon repeated the same operation as before: the patient was up in a fortnight, and gradually got about her usual duties in spite of the thrombus, which was eventually absorbed.

Other cases operated upon in the same way have invariably done well—up in a fortnight and walking about in three weeks. These cases would not have been reported, but in a recent book on surgery it is stated that very prolonged rest is required for these patients. The author quoted a case that he had had at rest for a considerable time, but for domestic reasons it was advisable for the patient to be nursed downstairs. The patient

was very carefully carried down, and all seemed well, but he suddenly dropped back dead.

I hope that these few remarks may be of service to others.—I am, etc.,

Hastings, July 17th. A. STANLEY PARKINSON.

A Case of Angular Pregnancy?

SIR,—In view of Professor Munro Kerr's article upon "Angular Pregnancy—A Clinical Entity," and his request for details of any such cases, which appeared in the *British Medical Journal* of June 23rd, I venture to publish the following brief account of a case which I encountered in hospital practice. I feel that publication of this case may be excused on the grounds of its own interest, but, what is more important, it may elicit further records.

A young married woman, aged 24, was admitted to the Royal Berkshire Hospital on November 28th, 1932, as an "acute appendix." She had been in sound health till the morning of the day of admission, when she developed pain in the abdomen, at first vague but later becoming increasingly severe and situated in the right side. There was no vomiting, and the bowels were open normally. There were no symptoms suggestive of urinary disorder.

On admission the patient did not look gravely ill, but was obviously having pain. Temperature 98.4° F.; pulse 96. Tongue slightly coated but moist. The abdomen was normal in contour, with fair respiratory movement. She was very tender in the right iliac fossa, with definite resistance to the palpating hand, but not true rigidity. The chest was clear and the urine examination revealed no abnormality.

Only upon close questioning did she admit that she had missed two menstrual periods; the second of these had been due a few days prior to admission. In the interval between the visit of her own medical practitioner and her removal to hospital she had had a slight loss from the vagina, which she took to be the onset of her period. Previously the menses had always been regular and unaccompanied by pain. Examination per vaginam revealed only a slight loss. The cervix was closed.

In view of the tenderness and defensive tightening it was decided to operate upon a diagnosis of acute appendicitis. The abdomen was opened through a median sub-umbilical incision. There was no blood or free fluid in the peritoneal cavity. The appendix was innocent and the intestines normal, with no enlargement of abdominal glands. The stomach and gall-bladder were normal. The uterus was enlarged to about the size of a two-months' pregnancy, but was quite asymmetrical. There was a definite, tubular, elongated swelling at the right upper pole of the uterus just immediately proximal to its junction with the right Fallopian tube. Tubes and ovaries were normal. The abdomen was closed without any further operative procedure.

The patient aborted completely two days later, but the specimen was not kept. Recovery was thereafter uneventful, and she was discharged from hospital well.

—I am, etc.,

Middleton-in-Teesdale, Co. Durham, July 9th. WILLIAM H. GOSSIP.

Cyanide Poisoning: Rasputin's Death

SIR,—In connexion with the letter on this subject from Dr. Frederick Dillon in the *Journal* of July 14th (p. 88), I think it is unnecessary to suppose that Rasputin's apparently miraculous survival after partaking of many lethal doses of cyanide was due to the powder administered to him not, in fact, being cyanide at all. Prince Youssoupoff's account of the drama includes a description of Rasputin's symptoms after taking the poisoned cakes and wine—for example, bitter taste, attempts to swallow an apparent obstruction in the throat, drowsiness, headache, extreme thirst, and finally a burning sensation in the stomach and a dull appearance of the eyes (occurring about an hour and a half after the beginning of the meal). This account (by a layman) agrees quite well with the symptoms of cyanide poisoning as detailed in books on pharmacology.

It is a well-established fact that cyanides will combine with the keto and aldehyde groups in the simpler carbohydrates to form cyanhydrins (Kiliani's reaction). De Saint Rat (*Presse Méd.*, 1926, xxxiv, 34, 1268) showed that when potassium cyanide was added to port to the extent of 2 per cent., three-quarters of the cyanide had disappeared as such from the wine after three hours, and no trace could be detected after nineteen hours; the wine contained 8.5 per cent. of reducing sugar. The cakes into which powdered cyanide was inserted by Rasputin's murderers contained "chocolate cream"—that is, included sugar and milk—and there is little doubt that some of the cyanide would likewise be chemically bound in them.

Various investigations (Violle: *Bull. de l'Acad. de Méd.*, 1926, xcv, 644; Forst: *Arch. Exper. Pathol. u. Pharm.*, 1928, cxxviii, 1) have shown that cyanide intoxication can be largely avoided by the previous administration of glucose to animals; and a case has been recorded of an individual who, by mistake, drank some sweetened tea containing two to three lethal doses of cyanide without suffering more than slight indisposition an hour later. Some experiments which I carried out a few years ago in collaboration with Dr. A. W. Forst indicated that it is possible to protect animals from many lethal doses of cyanide by previous administration of certain carbohydrates, or by previous admixture of carbohydrate with the cyanide, and that various carbohydrates differ markedly from one another in their capacity to protect. These differences do not depend entirely on the rate and extent to which the carbohydrates combine with cyanide *in vitro*, and can only be fully accounted for by some biological peculiarity as well.

I would not contend that Rasputin's survival after taking the poisoned food and wine was due solely to the protective action of the sugar contained in them; although, as the preparation was carried out some hours beforehand and conditions were thus suitable for the detoxication of the cyanide, it must surely have been an important factor. A pre-existing gastritis, as suggested in your quotation from Leschke, would no doubt assist in the protection against cyanide poisoning, and there may have been other factors which have not yet been investigated.—I am, etc.,

University of Bristol, July 16th. R. J. BROCKLEHURST.

SIR,—We are told that on December 29th, 1916, Rasputin was shot and his body flung into the Neva. A few hours before the fatal shot Rasputin is said to have eaten three chocolate cakes heavily charged with potassium cyanide. This deadly stuff, which was swilled down with three glasses of poisoned wine, appears to have had no effect on Rasputin. Two hours later he was in vigorous health, and, like the man in the gum-boots, who bounced for a fortnight, he had to be shot to end his activities.

Before we assume that the debauched and unsavoury body of Rasputin was protected against large quantities of cyanide of potassium by natural immunity, alcoholic gastritis, or supernatural agency, we must be sure that he consumed and retained the poison. Of this there is no certain evidence. The uncorroborated statement in Prince Youssoupoff's book quoted by Dr. Dillon would not be accepted by a conscientious detective. The most reasonable explanation of Rasputin's escape from cyanide poisoning is the one suggested by Dr. Dillon—that the powder in the cakes was not cyanide of potassium at all. If Dr. Lazovert tried to poison Rasputin he bungled his job.—I am, etc.,

Birmingham, July 16th. G. A. WILKES.

"Use Less Water"

SIR,—The gravity of the water shortage in the United Kingdom encourages me to give a mere medico's impressions culled on leave during the initial stages of the drought. To one accustomed to very careful preservation of water in Palestine, particularly in Jerusalem, the wastage of water in and about London seemed criminal, and two aspects are prominent in my mind.

1. In most of the operation theatres I had the honour of visiting water was allowed to flow *ad lib.* for no cleansing reason, it seeming to be taken for granted that hospitals had a special liberty in this respect. I have seen in one theatre more water running away to the drain through an unstopped basin (the tap left running by a surgeon or nurse) during one operation than would have been enough for a whole morning's operations in Jerusalem. This could be obviated by notices over basins, such as "Use water more carefully" rather than "Use less water"; also, if a slow-action spring were put on some of the lever-controls of taps, the latter would automatically shut.

2. The general use of sprays in houses hardly exists. If it were only realized that less water is used in a spray, either overhead or hand, a flexible connexion to ordinary taps could be used, even on a geyser. On the other hand, most people do not appreciate a spray. The Arab considers we are probably a dirty race, as we need so many baths; but what puzzles him is why "Inglese" prefer a soaking in their own dirty water, rather than a gentle, fresh stream all the time and no dirty water to dry off! Sprays do this, but in Great Britain they are conspicuous by their absence—at least to one who toured in quite a normal manner both England and Scotland. I can assure you there is nothing quite so refreshing after a long journey as a spray, rather than a tub.—I am, etc.,

Jerusalem, July 8th. W. E. THOMPSON.

Agranulocytic Angina

SIR,—I must apologize to Dr. Bulmer for having overlooked the report of his case. I should also, perhaps, have mentioned that in the case I reported the patient had not previously taken amidopyrine or a barbiturate or any combination containing them.—I am, etc.,

Woodbridge, Suffolk, July 22nd. A. DALY BRISCOE.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel Jeremiah Penny, Madras Medical Service (ret.), died at sea, on the voyage home from India, on July 7th, aged 70. He was born on July 5th, 1864, the son of William Penny of Langport, Somerset, was educated at King's College Hospital, where he was Warneford scholar, and took the M.R.C.S., L.R.C.P.Lond. in 1887, and the D.P.H.Camb. in 1891. After filling the posts of house-surgeon, house-accoucheur, and resident house-physician for women and children at King's College Hospital, and of house-surgeon at St. Peter's Hospital, he entered the I.M.S. as surgeon on July 28th, 1891, became lieutenant-colonel after twenty years' service, and retired on September 25th, 1921. He served in the Chin Hills campaign, on the North-East Frontier of India, in 1892–3, receiving the Frontier medal with a clasp. Most of his service was spent in civil employ in Burma, and after retiring he settled at Kokine, near Rangoon. He leaves a widow.

Surgeon Lieutenant (D) John Wade Robinson, L.D.S., R.N., of H.M.S. *Devonshire*, was shot by Turkish sentries while bathing with two other officers, at Tigani, on the island of Samos. One of the other officers was wounded at the same time. The sentries apparently mistook the officers, in their bathing costumes, for Greek smugglers.

Obituary

MARMADUKE STEPHEN MAYOU, F.R.C.S.

Senior Surgeon, Central London Ophthalmic Hospital

The death, on July 20th, of Marmaduke Stephen Mayou has prematurely removed from the world of ophthalmology one of its most forceful and prominent figures.

Born at Monmouth on May 4th, 1876, the son of George Mayou, M.D., he was educated at Hereford Cathedral School, and chose King's College and the London Hospitals for his medical studies, winning there the Warneford Scholarship and Jelf Medal in 1896, and qualifying M.R.C.S., L.R.C.P. in 1897. Four years later he took the English Fellowship, and in 1904 won the Jacksonian prize with his essay on "Conjunctivitis: its Pathology, Varieties, and Treatment." He held the Hunterian Professorship of the Royal College of Surgeons in 1905, thus entering brilliantly a distinguished scientific career. The list of Mr. Mayou's appointments, though long and varied enough to make formidable reading, by no means covers his vast activities. The broadness of his interests is shown by the number and diversity of the papers, devoted to pathology, comparative pathology, and clinical ophthalmology, he contributed to the *Royal London Ophthalmic Hospital Reports, Ophthalmoscope, Transactions of the Ophthalmological Society of the United Kingdom, Proceedings of the Royal Society of Medicine, British Journal of Ophthalmology, American Journal of Ophthalmology, British Medical Journal, Lancet, Practitioner,* and *Archives of Roentgenology*. Among his most notable publications are "The Changes Produced by Inflammation in the Conjunctiva" (Hunterian Lectures), *Diseases of the Eye* (which has run into four editions), and, in collaboration with Treacher Collins, *Pathology and Bacteriology of the Eye*.

His association with Mr. Treacher Collins was not limited to authorship, since, in 1927, he followed him in his post of visiting ophthalmic surgeon to the White Oak Hospital, Swanley, and shared his keen interest in the study of eye diseases in children: he was tireless in furthering the important work done at this hospital. Mr. Mayou's work in this direction was of the widest possible nature, and his experience was vast. He was appointed consulting surgeon to St. Margaret's Hospital, Kentish Town, at its opening in 1918, and to the Foundling Hospital, and he fully recognized the importance of the former as a teaching centre for medical students and midwives. At the time of his death he was also ophthalmic surgeon to the Bolingbroke Hospital, the Ear, Nose and Throat Hospital, Golden Square, the Infants Hospital, Vincent Square, and the Charterhouse Rheumatic Clinic. Among former appointments were those of ophthalmic surgeon to the Children's Hospital, Paddington Green, to the Hospital for Epilepsy and Paralysis, Maida Vale, and to the Seamen's Hospital, Greenwich.

The hospital with which Mayou's name will be best associated, and to which his main energies have been directed, is the Central London Ophthalmic Hospital, King's Cross, of which he was senior surgeon. He was appointed to the hospital as pathologist and radiographer

in 1906, became assistant surgeon in 1907, full surgeon in 1911, and succeeded Mr. Ernest Clarke as senior surgeon in 1913. Until the day of his death Mayou was unremitting in his efforts for the improvement and perfection of this hospital. No detail was too small for his attention, and his enthusiasm and ambition for its welfare and efficiency were boundless. It was mainly owing to his instrumentality that private wards for patients of limited means were added to the hospital, under the name of the Princess Marie Louise Wing, and he personally supervised each step in the fitting and furnishing of these rooms. On committees, executive and consultative, Mayou was always definite in his views, and his presence was recognized as of the greatest value. After serving first on the council and then as vice-president he was chosen as president of the Ophthalmological Society of the United Kingdom, and he was holding this important office at the date of his death. He was an original member of the Section of Ophthalmology of the Royal Society of Medicine, treasurer of the Council of British Ophthalmologists, and a member of the editorial and executive committee of the *British Journal of Ophthalmology*. He was a representative of the Council of British Ophthalmologists on the Ophthalmic Committee of the B.M.A. Other activities in the British Medical Association included that of the Association's representative on the National Ophthalmic Treatment Board in 1930. An active Freemason, he was Master of the Captain Coram Lodge, and ophthalmic surgeon to the Royal Masonic Hospital, first at Fulham and then at Ravenscourt, and to the Masonic Schools at Weybridge and Clapham Junction.

It is impossible here to do more than touch lightly on Mayou's manifold activities, but even from what has already been said some small idea can be gleaned of his limitless energy and unfailing interest in the branch of medicine which he had made his life's work. His patients —private and hospital—reaped the benefit of his extensive experience, and their absolute confidence in his opinion and treatment was shared by his colleagues, while his well-recognized skill in operating earned him the respect of those privileged to watch him. His interest in the mechanical side of ophthalmology is demonstrated by the numerous instruments he invented, the most notable of which are the Mayou operating lamp and the Mayou slit-lamp.

Thus far the ophthalmologist, who concealed the man himself. Broad in his views and far-sighted, he was primarily a sportsman. In spite of the incessant calls upon his time Mayou was an enthusiastic fisherman, spending some time of each year in Scotland, Norway, or Ireland in this pursuit, and enjoying nothing better than talking "fish" with others of the same cult. Indeed, the beginning of his last series of illnesses might be attributed to his over-enthusiasm in fishing in the chill waters of an Aberdeenshire river. A keen golfer, he fostered the yearly golf match between the Central, Moorfields, and Westminster Eye Hospitals with a jealous and paternal care. He was an ardent horticulturist, full of wise and helpful advice. His practical-mindedness was as evident in his private life as in his work, and his opinion on antiques was as interesting as it was instructive. A kindly and delightful host, always ready with counsel for those who sought it, either on private or professional grounds, his knowledge and experience, and the rapidity and clarity with which his mind worked, did not permit him to suffer fools gladly, and when he had made up his mind as to the right and proper course to pursue nothing would turn him aside from his purpose.

He is survived by a widow and three daughters.

[The photograph reproduced is by Elliott and Fry.]

CHARLES J. HEATH, F.R.C.S.

Mr. Charles Joseph Heath died at his house in York Terrace, Regent's Park, N.W., on July 13th. He was well known as an aural surgeon, as a sportsman, and as an inventor—showing a versatility which is not unusual in members of the medical profession, but which in his own case covered an unusually wide sphere. As aural surgeon he correlated the best points of many operations on the ear, tested them by experience, and produced a method which his friends always spoke of as "Heath's operation." He was somewhat vain of the method, and spoke of it in season and out, sometimes to the weariness of his auditors. The operation is a good one, is likely to be lasting, and was worthy of his praise. He designed, or modified, too, a large number of instruments for use in the surgery of the ear. As a sportsman Heath was a first-rate shot, and was equally good as a salmon fisher. He shot wildfowl on the Shannon and in Essex, and fished in Galway. As an inventor he designed and improved an anti-gas helmet of which large numbers were supplied to the British Army during the Great War, and introduced a chamberless wildfowling gun. He also defined the principles essential in the design of Army boots for the Army Hygienic Advisory Committee.

Born at Totnes, South Devon, on Christmas Day, 1856, he was the third son of John Heath, land agent, and Rachel Pulling, his wife. His elder brother, William Lenton Heath, F.R.C.S., who died in 1912, was well known and very popular as a general practitioner in South Kensington. Charles Heath was educated at the King Edward VI Grammar School at Totnes and at St. Bartholomew's Hospital. At the latter he early showed his delicate manipulative skill by gaining, in successive years, and at a time when there was very keen competition, the junior and senior prize for the best dissection. He was subsequently appointed Prosector at the Royal College of Surgeons, where it was his duty to make the dissections upon which candidates for the Membership and Fellowship of the College were afterwards examined. He was admitted M.R.C.S. in 1884, served a term of office as house-surgeon at the Preston Royal Infirmary, and was elected F.R.C.S. in 1886. Two years later he joined the British Medical Association, for which he afterwards did good service as secretary of the Section of Laryngology. Having determined to practise a specialty, he became assistant surgeon to the Central London Throat, Nose and Ear Hospital, and afterwards to the Throat Hospital in Golden Square, where at the time of his death he was a vice-president. Aural surgery attracted him more than the treatment of diseases of the throat, and he was for some years the consulting aural surgeon to the Downs Hospital for Children under the Metropolitan Asylums Board. He was a Fellow of the Hunterian Society, and was a frequent speaker at the British Oto-laryngological Society and at the Oto-laryngological Section of the Royal Society of Medicine.

He wrote little, his chief contributions to the literature being: *Diagnosis and Treatment in Cases of Otitis Media*; *The Cure of Chronic Suppuration of the Ear Without Removal of the Drum or Ossicles or Loss of Hearing*; *The Nature and Causes of Catarrhal Throat or Hereditary Deafness with a New Method of Treatment*; *The Prevention of Deafness and Mortality which Results from Aural Suppuration*.

He married Agnes Frideswide, daughter of Colonel J. J. Wilson, who died in 1930, and is survived by two daughters. Heath was a true sportsman and a loyal friend. He suffered of late years from increasing deafness, which led him last year to resign his position as a member of the House Committee of the Governors of

St. Bartholomew's Hospital, a position he greatly valued. The funeral service was held at St. James's Church, Piccadilly, and he was buried at the Greenwich Cemetery, Shooter's Hill.

Dr. JAMES W. STEEL of Bournemouth died on July 14th, in his early forties. Born at Dundee and educated at the Morgan Academy and Edinburgh University, he graduated M.B., Ch.B. in 1913. After acting as house-surgeon at Bolton Infirmary he was assistant in private practice in Preston before joining the R.A.M.C. in 1916. He held the rank of captain, and suffered severely from malaria and dysentery in Salonika. For his war services in Batum and South Russia he was awarded the Order of St. Stanislaus. Mr. R. Saunders Melville, F.R.C.S.Ed., writes: I was touched to read recently in a book of war reminiscences by a much travelled member of the medical profession numerous references to "Jimmy" Steel. He mentions his charming smile, his universal popularity, his skill as a pianist, which gave pleasure to so many during those arduous days, and he refers to him as the most conscientious man he had ever met. That is no exaggeration. The charm of James Steel's personality lay in his simplicity, his goodness of heart, and his modesty. Therein lay his strength. His was a sunny nature, and he loved life and happiness. He settled in Bournemouth after the war, and rapidly built up a large practice. He was by nature the ideal family doctor, and his abilities were far in excess of his very modest estimate of them. His devotion to his profession was absolute, and he carried out his duties until within a few days of his death. When told that he was suffering from leukaemia and advised to go up to London for *x*-ray treament, it was typical of him to say that he really could not go at that time as he had a "confinement coming off." He knew that there was no prospect of cure, and his one anxiety seemed to be that it should make "no difference." He refused to submit to invalidism. He carried on his practice with the help of an assistant, went on holiday with all his old enthusiasm, and it says much for his strength of character that he was able to forget and almost able to make his friends forget that he was fatally ill. He met the remonstrances of his doctor brothers and professional friends with obvious indignation, and argued with a whimsical wit that invariably brought the laughter that he loved so much, but he submitted to spare them anxiety—not for his own sake. Last winter he confounded the critics by dancing an eightsome reel with all the grace and skill inherited from his Highland forebears. Dr. Steel was unmarried, but he was fortunate in being a member of a devoted family. His mother, to whom he was deeply attached, predeceased him about two years ago, spared the knowledge of her son's illness. Children loved him; he was fond of saying that he was honorary uncle to numerous small patients. His last days were brightened by the company of a small nephew, who frequently went with him on his rounds and whose quaint sayings were of far more interest to him than his own symptoms. And now he is gone, dying as he had lived, a very gallant gentleman. We his friends, in extending our sympathy to his family, share very humbly in their pride in him.

The death of Dr. IRENE CLARKE (née Higgie) has removed a zealous worker from the British Medical Association, as well as an energetic and devoted servant of the community. Irene Higgie graduated M.B., Ch.B.Glas. in 1923, and joined the Association immediately. She obtained the D.P.H. in 1928. In the next year she married Dr. T. W. Clarke of West Acton, and thereafter was prominent in the social life of Acton and Ealing, and a strong supporter of various charitable causes. One of her chief interests was the Acton Hospital, to which she rendered exceptionally valuable assistance. She became honorary secretary of the West Middlesex Division of the British Medical Association in 1930, and was a Representative at the annual meeting in 1931 at Eastbourne. Until her last illness she had been very active in work for the Division, interesting herself in all sides of medical progress. She was a life member of the British Association for the Advancement of Science, and a Fellow of the Royal Institute of Public Health. To a real devotion to scientific knowledge she added a great ability for organization and genius for hospitality. What had promised to be a brilliant and happy career was cut short by a lingering illness, and it is hoped to commemorate in some useful way a life which, though short, had been full of inspiration and encouragement for others.

Universities and Colleges

UNIVERSITY OF OXFORD

The Theodore Williams Scholarship in Physiology, 1934, has been awarded to Miss D. C. Pedley of St. Hilda's College.

UNIVERSITY OF LONDON

A meeting of the Senate was held on July 18th, with the Vice-Chancellor (Professor L. N. G. Filon) in the chair.

Professor J. H. Gaddum was appointed to the University Chair of Pharmacology (University College) from July 1st, 1935, and Dr. J. R. Marrack to the University Chair of Chemical Pathology (London Hospital Medical College) from October 1st.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN

The following awards of scholarships for 1934–5 are announced: *St. Dunstan's Exhibition:* E. J. Fair. *A. M. Bird Entrance Scholarship:* J. Avarne. *Sir Owen Roberts Memorial Scholarship:* E. W. Town. *A. M. Bird Clinical Scholarship:* V. Sykes. *Alfred Langton Scholarship:* E. M. Drown. *Ellen Walker Bursary:* M. T. Collins, G. E. Reed. *Flora Murray Bursary:* D. J. Perkins. *School Jubilee Bursary:* K. M. French. *Mabel Sharman-Crawford Scholarship:* M. L. Taylor. *Special A. M. Bird Scholarships:* B. Clark, M. G. Ernst, H. M. Kennedy, I. M. Lamey, A. M. A. Medley, S. J. Spencer. *A. M. Bird Post-Graduate Scholarship in Pathology:* J. C. Drury, M.B., Ch.B. *Mabel Webb and A. M. Bird Research Scholarship:* U. Shelley, M.D., B.S., M.R.C.P. (renewed).

VICTORIA UNIVERSITY OF MANCHESTER

Dr. J. W. Bride has been appointed lecturer in clinical obstetrics and gynaecology; Dr. F. R. Ferguson, lecturer in neurology; and Dr. John Gifford, lecturer in mental diseases.

UNIVERSITY OF EDINBURGH

A graduation ceremonial was held in the M'Ewan Hall on July 18th. The following medical degrees and diplomas were conferred:

M.D.—W. J. Candlish, J. R. Davidson, F. A. Duffield, Phyllis M. Edwards, †Annie E. Ferguson (née Webster), W. H. Gillespie, †R. G. Hood, †H. L. Khosla, J. L. Law (*in absentia*), †W. V. Macfarlane, S. L. A. Manuwa (*in absentia*), †J. Milne, W. E. Orchard, R. Porteous, D. M. Scrimgeour, *C. E. van Rooyen.

CH.M.—†H. J. P. Brüwer.

D.PH.—B. B. Dikshit (*in absentia*), R. K. Goyal, B. Narayana.

M.B., B.CH.—F. S. Airey, A. K. Arif, ‡R. W. Armour, S. O. Awoliyi, D. A. Baird, P. B. Barker, W. Barnetson, P. G. Barrow, D. R. Beaton, ‡D. L. C. Bingham, J. F. Birrell, W. R. Black, W. Blackwood, P. R. K. Bradbury, R. M. Brown, Olive M. Browne, J. H. Brownlee, J. A. Buchanan, J. C. Burgin, W. D. A. Callam, J. D. Cameron, Nora Campbell, W. R. Campbell, M. Cay, N. Chakravarti, J. A. Chalmers, R. W. Chalmers, D. Clarke, Kathleen B. Cobb, T. J. Cockburn, L. M. Comissiong, W. C. J. Cooper, A. F. Cowan, W. J. A. Craig, T. D. Culbert, J. D. Davies, H. W. Dryerre, J. R. Durham, I. M. D. N. Farquharson, S. L. Forrest, H. F. Galler, Ann F. Gibb, D. Gilmour, J. C. Goligher, H. M. Grant, J. S. Grant, N. A. Gray, N. Gray, R. D. Gray, A. Greenblatt, G. C. Gundersen, M. I. Hall, Alison M. B. Hamilton, J. Hart-Mercer, W. K. Henderson, H. B. T. Holland, Isabella Hood, J. Hutton, Augusta S. Inglis, ‡A. J. Innes, J. R. B. Johnstone, Josephine J. M. Kamm, J. S. Kaufman, J. M. Kerr, T. A. Kester, J. H. Kretzmar, G. K. Lloyd, N. M. L. Lund, J. Macaskill, I. R. I. MacDonald, W. T. Macdonald, J. A. B. M'Dougle, G. B. MacGibbon, J. H. M'Intyre, W. R. H. Mackay, I. K. MacKenzie, C. R. M'Laughlin, N. Maclean, I. P. J. MacNaughtan, J. Magill, J. A. Malloch, W. Maxwell, J. H. Miller, N. C. F. Milne, E. K. Morris, ‡K. M. Morris, T. M. Murdock, G. M. Naicker, E. F. Nathaniel, C. C. Nicholson, G. Nisbet, E. F. Northcroft, G. J. Partington, M. K. Pillai, A. W. Reeve, S. C. C. dos Remedios,

‡A. J. Rhodes, S. G. Roberts, J. Ronald, S. Rosner, A. I. Ross, J. A. Ross, G. D. Rowley, A. H. Saleh, J. Sandilands, Jane A. M. Shepherd, C. H. Smith, Maud I. Smith, T. Sommerville, J. M. M. Steven, Janet P. Stewart, ‡J. K. Sutherland, Muriel A. W. Swanston, G. H. Taylor, Mary W. Taylor, J. F. Thomson, R. N. Traquair, D. G. Waddell, Patricia S. Warren, E. S. Watson, A. J. Webster, J. O. Westwater, H. I. Whitelocke, Molly B. Wilson, R. H. Winfield, I. U. Young, J. Young, Katharine M. Young.

DIPLOMA IN PUBLIC HEALTH.—M. U. Ahmad, W. Aitchison, A. Armit, M. W. M. de Silva, I. Gordon, Ellen M. Hegarty, R. Woodrow, Aileen E. Mathers.

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—H. Bayliss-Stokes, V. E. M. Lee, A. W. Rose, G. J. Smit, G. Watt.

DIPLOMA IN PSYCHIATRY.—Laura M. D. Mill.

DIPLOMA IN RADIOLOGY.—F. M. Gordon, A. R. Sahy.

* Highly commended for thesis. † Commended for thesis.
‡ Passed with honours.

The following prizes were presented: *Cameron Prize in Practical Therapeutics:* Professor Emeritus Sir Edward Sharpey-Schafer, D.Sc., M.D., LL.D., F.R.S., P.R.S.E., in recognition of the advances in therapeutics arising out of his discoveries in endocrinology. *Ettles Scholarship and Leslie Gold Medal,* and *Beaney Prize in Anatomy and Surgery:* R. W. Armour. *Scottish Association for Medical Education of Women Prize,* and *Dorothy Gilfillan Memorial Prize:* Molly B. Wilson. *Stark Scholarship in Clinical Medicine, Annandale Gold Medal in Clinical Surgery,* and *Royal Victoria Hospital Tuberculosis Trust Gold Medal:* D. L. C. Bingham. *Mouat Scholarship in the Practice of Physic:* J. M. M. Steven. *Buchanan Scholarship in Midwifery and Gynaecology,* and *Murdoch Brown Silver Medal in Clinical Medicine:* K. M. Morris. *James Scott Scholarship in Midwifery and Gynaecology:* A. J. Rhodes. *Pattison Prize in Clinical Surgery:* R. H. Winfield. *M'Cosh Bursary:* M. M. Parker. *Guaning Victoria Jubilee Prize in Surgery:* R. J. Kellar. *Gunning Victoria Jubilee Prize in Pathology:* C. E. van Rooyen. *Milner Fothergill Medal in Therapeutics:* D. M. Dunlop. *Thomson Memorial Medal in Child Life and Health:* H. T. H. Arnott. *Wightman Prize in Clinical Medicine:* J. du T. le Roux. *Wellcome Medals and Prizes in the History of Medicine:* Gold Medal, R. Scott; Silver Medal, D. H. Lees. *Cunningham Memorial Medal and Prize in Anatomy:* H. Milne-Redhead. *Whiteside Bruce Bursary:* J. M. Barkla.

An address was delivered to the new graduates by Professor A. J. Clark, M.D., F.R.S.

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

The following candidates have been approved at the examinations indicated:

M.D.—J. W. Craig, H. B. F. Dixon, Anna M. E. M'Cabe, H. Renton, W. A. Robinson.

M.Ch.—D. S. P. Wilson.

FINAL MEDICAL EXAMINATION.—*Part I, Materia Medica and Therapeutics, Pathology and Bacteriology:* *D. T. Bardon, *C. Mushatt, M. Toohey, P. Delap, Isabelle M. V. Elliott, H. A. Daniels, Catherine T. M. Franklin, F. MacD. Byrn, G. B. Jackson, R. C. O'Grady, J. R. Sides, E. T. M'Cartney, Eileen D. Maunsell, A. J. Reeves, J. C. Gaffney, S. B. Sachs, C. W. Greene, G. H. B. Roberts, E. R. N. Cooke. *Part II, M.B. (New Regulations):* D. S. Quill, Marie J. S. O'Toole, Eveleen M. H. Scott, F. M. Hanna, E. B. M'Entee, P. A. M'Nally, A. C. Pilkington, I. A. Walsh, C. M. T. Adamson, H. D. M'Gorry, J. F. Q. Conolly, A. F. J. Delany, W. G. B. Halliden, J. F. Harbinson, N. Weinstein, F. P. E. Smith, D. J. O'Shaughnessy, R. C. Tyner, R. F. Lurring. *(Old Regulations):* T. A. Cunningham, H. L. Connor, B. E. W. Aldwell, M. H. Cosbie, A. D. Egan. *B.Ch.:* *F. M. Hanna, N. Weinstein, Eveleen M. H. Scott, E. E. O'Malley, P. B. Hafner, M. H. Cosbie, H. D. M'Gorry, H. F. T. Deane, R. C. Tyner, R. F. Lurring, W. G. B. Halliden, K. O'Toole, E. B. M'Entee, P. A. M'Nally, H. L. Connor, C. J. Vaughan, F. P. E. Smith. *B.A.O.:* *H. D. O'Brien, A. R. S. Jessop, J. J. Talbot, L. Fridjohn, A. E. Fannin, Eva E. Moore, H. A. Wells, P. Citron.

DIPLOMA IN PUBLIC HEALTH.—*Part II:* A. J. O'Connor, Anna M. E. M'Cabe, R. A. J. Holmes-Ievers, I. G. M'Intyre.

* Passed on high marks.

The following prizes have been awarded: *FitzPatrick Scholarship:* F. M. Hanna. *Medical Scholarships:* Physics, Chemistry, Botany, and Zoology, G. E. Nevill; Anatomy and Physiology, J. H. A. Jewell. *Stewart Medical Scholarships:* Physics, Chemistry, Botany, and Zoology, S. Sevitt; Anatomy and Physiology, G. N. MacFarlane. *John Mallet Purser Medal:* J. E. Gillespie. *D. J. Cunningham Memorial Medal and Prize,* G. N. MacFarlane. *Begley Studentship,* D. K. Stewart. *O'Sullivan Memorial Scholarship,* J. N. P. Moore. *Adrian Stokes Memorial Fellowship:* G. C. Dockeray, E. S. Duthie. *De Renzy Centenary Prize:* Anna M. E. M'Cabe, A. J. O'Connor. *Aquilla Smith Prize:* D. T. Bardon, C. Mushatt. *Walter G. Smith Prize:* G. B. Jackson.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons this week voted all outstanding estimates. The Cattle Industry (Emergency Provisions) Bill was passed.

The Domiciliary Nursing Services Bill was read a second time without debate in the Commons on July 20th, and was sent to a Standing Committee.

In the House of Lords, on July 23rd, the Commons Amendments to the Shops Bill were accepted, and consequential amendments were made.

Parliament will adjourn for the long recess on July 31st, and probably reassemble on October 29th to complete the work of the present session, including the Betting and Lotteries Bill.

During the latter part of the recess Sir HILTON YOUNG will visit large towns in England and Wales to explain the Government's plans for preventing overcrowding, and to inspect the progress made in slum clearance. This action is independent of the discussions proceeding on the provisions of the forthcoming Overcrowding Bill with the London County Council and the accredited associations of local authorities.

The House of Commons, on June 20th, ordered a return of licences granted under the Act 39 and 40 Vic., cap. 77, showing the number of experiments on living animals performed under the Act during 1933, and the registered places at which such experiments may be performed.

Houses for Wage-earners

In the House of Lords, on July 18th, Lord BALFOUR OF BURLEIGH moved a resolution declaring that, in addition to the slum clearance proposals of the Government, 1,000,000 houses should be provided to let at weekly rentals inclusive of rates of 10s. and under, and that the Government should consider setting up a Housing Commission to secure the erection of such houses by local authorities and public utility societies on a national plan. Lord AMULREE, supporting the resolution, said it was estimated that the next census would show an increase of 668,000 in the number of families in England and Wales compared with 1931. He argued that a similar number of houses would be required for them. The plea for a housing commission was supported by the Archbishop of Canterbury and other Peers. The Earl of CRAWFORD drew attention to the infestation of vermin in new housing areas in London. One group of students of the subject, he said, had estimated that 2,000,000 of the inhabitants of London were within the area of infestation, and the area was rapidly extending. Medical men who worked in these areas agreed that the bug produced a troubled form of sleep, resulting in debility and weakness, which was a source of general ill-health. It had been proved that the bug could get through the party wall of an average new residential house and take advantage of every nook and cranny and oversight on the part of the builder. He urged the Government not to rush the housing programme until it had an assurance that the new houses would not be infested in a year or two, and also not to begin to rebuild immediately upon cleared slum areas. Lord JESSEL said it was not the case that enormous numbers of workers in this country earned less than 50s. and so required very cheap houses. Moreover, the increased number of families included single persons, who, for census purposes, were reckoned as families.

Viscount HALIFAX said this was the fifth debate on housing which the House of Lords had held within seven months. The danger of the bed-bug was present to the mind of the Ministry of Health, and the proposals made on the subject by Lord Crawford would be brought to the attention of the Minister. The motion moved by Lord Balfour proposed a Housing Commission largely or partly to supersede the Ministry of Health. Such a body would be a barrier between the local authorities, who were immediately responsible for housing, and the driving force of the Minister and the Ministry. Direct contact with the Ministry gave the best

encouragement and stimulus to local authorities. The considerations advanced by Lord Jessel showed that the number of houses to be provided at rents of 10s. per week would be much less than the suggested 1,000,000. Nevertheless, it was the view of the Government that provision must be made in accordance with an ordered plan for whatever number of houses were needed to overcome overcrowding, and to do that by beginning with a direct attack on conditions which were most intolerable. In the autumn the Government would propose legislation defining standards of accommodation, and providing a sufficiency of houses to enable those standards to be observed. Assistance would be given to enable local authorities to erect the houses needed, including those of low rents, for inhabitants who would be no longer permitted to live in overcrowded conditions. This would involve re-housing and re-planning on a scale never previously undertaken in this or in any other country. In addition, the duty of local authorities would still be to meet any need in their areas for low-rented houses. Where there was evidence that private enterprise was not meeting the needs of the district, the Minister of Health would entertain proposals for the erection of unsubsidized houses by local authorities. Private house-building was going on at the rate of some 240,000 houses a year, and an increasing proportion was being provided for wage-earners

Lord BALFOUR OF BURLEIGH said he was astonished that Lord Crawford seemed to think the bed-bug was peculiar to new houses. It came to old houses in the furniture. Hydrocyanic acid gas was the only thing for dealing with the infestation, and had been used with great success by numerous local authorities. Commenting on the debate as a whole, Lord Balfour said nothing had been advanced to controvert the view that existing building was not going to provide houses to let at low rents. It was undesirable that the lower-paid wage-earner should own his own house. Such houses would fall into the hands of speculators and contribute to the slum problem in the future.

Lord Balfour of Burleigh then withdrew his motion.

Housing and Slum Clearance in Scotland

In the House of Commons on July 18th, Mr. SKELTON, Under-Secretary for Scotland, moved an estimate of £1,882,420 for the Department of Health for Scotland, including grants in connexion with housing and the grant-in-aid of the Highlands and Islands Medical Service. He said the record of public health in Scotland as tested in 1933 by infant mortality and maternal mortality showed a small improvement. Infant mortality fell from 86 per 1,000 in 1932 to 81 per 1,000 in 1933. Maternal mortality in 1932 was 6.3 per 1,000, and last year was 5.9, the lowest figure since 1924. The Department had scientific investigation in progress on maternal mortality, and it was more important that cases should be closely examined and sound deductions drawn than that the committee should seek to hasten the production of the report. Scotland was better off than England for water, as January, April, and May had produced rainfalls above the average. For improvement of rural water supply 176 schemes had been submitted, representing a total expenditure of £1,095,000. Towards that sum a grant of £137,000 was available, and would be distributed in accordance with the requirements of housing, and of public health and the financial needs of the area. The number of rural cottages reconditioned under the Acts of 1926 and 1931 during the year 1933 was 2,815, bringing the total to 14,012. As regards houses completed with State assistance, 1933 was a record year, 20,915 houses having been completed, as against 20,158 in 1927. For the first six months of 1934 the number was 11,850, and 2,600 were under construction at the end of the period. In the eighteen months which included 1933 and the first half of 1934, 11,647 slum clearance houses had been finished. The estimated number of uninhabitable houses in Scotland was 61,300, and the local authorities proposed, in the five years from 1933, to secure the building of 56,394; some of the remainder could be reconditioned. In 1933 tenders approved for the construction of new houses to replace slums were 8,643, and for the first six weeks of this year 6,738. The number of houses completed by private enterprise during 1933 was 5,202, compared with 1,456 in 1932.

Mr. BURNETT said that in England in 1933 266,000 houses were built, 208,000 without State assistance; that was nearly forty times what had been done in Scotland. Of the English houses 77,000 were "C" class houses for lower-paid workers. Scotland had not been able to get these houses by private enterprise. Miss HORSBURGH said the infant mortality rate in Dundee was 98 per 1,000, and there were many cases early in the year of pneumonia and bronchitis. The problem of the death of children under 1 year from pneumonia, bronchitis, and such diseases could not be tackled if the children were allowed to remain in slum dwellings, many of which were underground. Many local authorities in Scotland now said that they were building to full capacity. How, then, did the Secretary for Scotland intend that besides the slum clearance programmes they should deal with overcrowding and the growth of population? In Dundee there were 9,000 or 10,000 two-roomed houses—about 8,000 of them overcrowded—and over 3,000 condemned houses in occupation. Mr. KIRKWOOD remarked that the people of Scotland were never as healthy as they were to-day. Public health services, he said, had been severely tested during the past few years, and had come through the test. Phthisis continued to decline, and non-pulmonary tuberculosis had declined in proportion. Scarlet fever, though still prevalent, had become so mild that the mortality was less than 1 per cent., and, while measles still affected infant children in the congested tenement areas, it did not affect them to the same extent in the new housing areas, and was largely confined to children of school age. Some of the diseases which produced blindness and lameness were now almost eradicated. Twenty years ago a hundred people became blind every year from ophthalmia neonatorum; the fear of blindness from that cause had been completely removed. Mr. LEONARD said the public was taking cognizance of the character of the milk supply, but only a limited number of county councils had arranged to carry out the minimum of three inspections yearly of dairy herds. The housing problem in Glasgow had been ameliorated by a decline in the birth rate, as well as by increased activity in building. Nevertheless, Glasgow to-day had 3,800 one-apartment houses, and over 50 per cent. of them were overcrowded. Taking the standard of more than three persons per room as overcrowding, 29,371 houses were overcrowded, and of that total 28,000 were of the one- and two-apartment types.

Sir G. COLLINS denied that more favourable terms of assistance had been given to Sheffield Corporation than had been given to Glasgow. If the Government in Scotland was to attempt to cope at once with slum clearance and overcrowding it would fail. It was far better to get slum clearance under way before asking local authorities to deal with overcrowding. Within five years 92 per cent. of the slums in Scotland would be wiped out, and next year, when the Government's plans had matured, Parliament would be asked to legislate on overcrowding. The discussion then concluded.

Increase of Mental Deficiency in Scotland

During a debate on the estimates for public education in Scotland, in the House of Commons on July 18th, Mr. MAXTON suggested that the Secretary for Scotland should subsidize research on human nutrition. The Scottish Office, he said, was subsidizing research about the nutrition of animals at the Rowett Institute in the North of Scotland, but was doing nothing about human nutrition. He asked whether the Minister who was responsible for providing 6,000,000 school meals during 1933 had consulted high medical opinion on whether these meals were of the highest nutritive value and were appetizing. He also suggested that the Minister should investigate the prison dietary in Scotland. Mr. Maxton drew attention to the increase in the number of mentally and physically defective children, although the Scottish population had remained practically stationary for a dozen years. He wished to be assured that in order to keep the special service going boys and girls who formerly would have been regarded as suitable for ordinary schools were not now being certified as mentally or physically deficient. Mr. SKELTON said nothing would be more lamentable than to find that the increase to which Mr. Maxton drew attention indicated an increase in the number of marginal cases taken into special schools. According to his information, however, there was

nothing to justify this suspicion. On the whole, the Department of Education was satisfied with the menu of school meals, which was mainly supervised by medical officers of the local authorities. The discussion then closed.

Noise from Motor Car Exhausts

The Road Traffic Bill was again taken in committee of the whole House by the House of Lords on July 19th. Lord ELTON, in the absence of Lord Horder, moved to insert, after Clause 33, words making it unlawful to sell, to offer for sale, or to supply a motor vehicle for use on the road if such use would be unlawful under Section 3 (1) of the principal Act. The object of the amendment was to reduce the dangerous public nuisance of the excessively noisy exhaust of the motor car or motor cycle. To use on the roads a motor vehicle with an inefficient silencer was already illegal, but it was not illegal to supply such a vehicle. Under the Road Traffic Act, 1930, regulations provided that motor vehicles should be equipped with efficient silencers, but these regulations were openly and deliberately flouted because users of vehicles with illegal silencers satisfied the court that they had bought in good faith the standard production of a well-known firm exhibited for sale without restriction. The MARQUESS OF SALISBURY said that when a distinguished physician had told the public and the House of Lords that this evil was really antagonistic to public health the time had arrived to do something. The EARL OF PLYMOUTH, for the Government, appealed to the House not to press the amendment. The matter had been referred to the scientific committee, which the Minister had asked to report at the earliest possible moment. Despite Lord Plymouth's plea the House agreed to the amendment. Lord ELTON then moved a consequential clause making it unlawful to alter any motor vehicle or trailer in such a manner that the use thereof on a road would, by reason of such an alteration, be unlawful under the provisions against noise. The House also agreed to this amendment. Further amendments, chiefly of a drafting character, were made in subsequent clauses and schedules.

Veterinary Officers under the Milk Bill

The House of Lords, on July 19th, went into committee on the Milk Bill. On Clause 9 (payments for securing pure milk supply) Lord STRACHIE moved that at least half the sum provided under the clause should be allocated for making grants to county councils for the provision and maintenance of a whole-time veterinary service. He said the amendment was put down on behalf of the County Councils Association. The object of the clause should not be merely that a certain number of persons should produce pure milk to get an extra penny. All the herds of the country should be in such a condition that milk was always pure and free from infectious disease.

Earl DE LA WARR replied that a misunderstanding had arisen because there were two distinct schemes for cleaning up herds. The one which was affected by the finance of this Bill was the Ministry's scheme for building up tubercle-free herds. To enter it a herd-owner would have to satisfy the Government that he had had two successive tests at intervals of six months which showed his herd to be completely free. The Ministry would thereafter, within sixty days, carry out its own test through its own central service. The Government estimated the cost of the premiums on milk produced from herds so tested at approximately £450,000 over a period of four years. There was a further scheme which did not come under the Bill at all. This was the accredited herds scheme, to be prepared and administered entirely by the Milk Marketing Board. This would be approximately on the line that every herd should be open to clinical inspection twice a year, and that the milk produced should come up to Grade "A" standard. No expense would fall on a county council under the Ministry's scheme. Under the Board's scheme the counties might find it necessary to provide more veterinary officers, but all new expenditure for that purpose would have to be carried by the county until the block grant was next revised in 1937 or 1938. Under the Bill not a single county veterinary officer would have to be appointed.

The proposed amendment was defeated by 41 to 23. Subsequent clauses of the Bill were then carried with minor amendments.

In the House of Lords, on July 24th, the Milk Bill passed the report stage.

Poor Relief in Scotland

In the House of Lords, on July 23rd, the Poor Law (Scotland) Bill was considered in committee. On Clause 7 (which provides that an able-bodied person may be required by the local authority to perform work on a certificate of the medical officer that he is physically fit to perform the work) VISCOUNT GAGE, for the Government, moved an amendment, allowing that the certificate might, in the case of a person who had a regular medical attendant, be given only after consultation with that medical attendant, whenever there was a reasonable opportunity of consulting with him. The purpose of the amendment, he said, was to ensure that the medical officer of the local authority should become aware of the applicant's medical history before granting a certificate. The amendment was accepted.

On Clause 11, which governs the granting of outdoor relief to members of friendly societies, VISCOUNT GAGE moved an amendment to secure that the normal maternity benefit of 40s. should be disregarded. He said that this provision was agreed to in principle in the House of Commons on the clear understanding that the words he was now proposing should be added. In the case of an insured married woman authorities would be required to disregard the normal benefit, and it would be within their discretion in an individual case to ignore any increased or second maternity benefit. The amendment was agreed to, and the Bill passed through committee.

On July 24th the Bill passed the report stage.

Tarred Roads and Lung Cancer

On July 23rd Mr. SHAKESPEARE, replying to Mr. Clarry, said that the Minister of Health was advised that a relation between the inhalation of dust from tarred roads and cancer of the lung had not been established; it was therefore not possible to say whether any deaths from this disease could be attributed to this cause. Sir A. SAMUEL asked if the Minister had any record or information to show why there was a great increase in the number of recorded cases of cancer of the lung. Mr. SHAKESPEARE: I would not put it as high as that. The percentage of cancer of the lung is very small. Sir F. FREMANTLE asked if the Minister was aware that the number of deaths from cancer of the respiratory organs was only 90 per 1,000,000 compared with 1,500 altogether from cancer generally. He also asked if the so-called statement of correlation was only a chance suggestion made by a layman without any qualifications, and that medical opinion considered it unwarranted. This question was not answered.

Artificial Teeth: Increased Import Duty

In the House of Commons on July 24th Dr. BURGIN moved that the House approve an Order imposing additional duties on imported artificial teeth. Mr. RHYS DAVIES said he believed that the duty would amount to about 1½d. per tooth, and he would like to know whether a request for the duty had come from the dentists or from the manufacturers of teeth in this country. Dr. BURGIN said that there were about 30 million artificial teeth used each year in the United Kingdom. Ten millions of these were manufactured at home and about 20 millions were imported. The British industry was in a position to meet the whole of the requirements of modern dentistry in this country, and to supply all United Kingdom users with teeth of home manufacture. The imported teeth came from the United States of America, Palestine, Germany, France, and recently Japan. The highest duty payable on a single tooth was just under 1¼d. The lowest price payable for an operation which involved the supply of a single tooth under national health insurance was 5s., and a duty which could not in any circumstances amount to more than 1¼d. a tooth would not increase the cost of

a denture to the consumer. Mr. DAVIES asked whether an agreement had been come to with the dentists to that effect. Dr. BURGIN said that the committee which had examined this matter was of opinion that the increase in duty would not affect the price paid by the consumer.

The motion was carried.

Fee to Hospitals for Road Casualties

In the House of Lords on July 24th the Road Traffic Bill passed the report stage. On Clause 13, which deals with payment and insurance in respect of emergency treatment, the EARL OF PLYMOUTH moved amendments providing that where emergency treatment is first effected in a hospital, the payments of 12s. 6d. in respect of each person, and of 6d. for every mile or part of a mile in excess of a distance of two miles, should, as far as possible, be made to the hospital. He said that it was quite obvious that the hospital could not travel to the scene of an accident, and therefore this mileage provision would not apply. The amendments were agreed to.

Economy Cuts.—Mr. SHAKESPEARE, replying on July 24th to Mr. D. G. Somerville, who asked what arrangements had been made to restore in part to doctors and chemists the losses suffered by them as a result of the economy measures of 1931, said a circular had been issued by the Ministry of Health to Insurance Committees on June 20th. This set out the arrangements for giving effect to the decision of the Government to restore, from July 1st, one-half of the deduction made from the remuneration of insurance practitioners and chemists, as a measure of economy, from October 1st, 1931.

Increased Importation of Surgical Appliances.—Dr. BURGIN told Sir G. Fox, on July 19th, that he was aware that imports of dental, surgical, medical, and veterinary instruments and appliances (except optical) had increased from £163,813 in the first half of 1932 to £215,250 in the first half of 1933, and to £247,022 in the first half of 1934. Any increase in the duty on these goods must be dealt with by the ordinary procedure under the Import Duties Act.

Notes in Brief

Sir Hilton Young stated that the interim report from the Advisory Committee on the Disposal of London Refuse will be received before the end of July.

Medical News

The next lecture-demonstration arranged by the Fellowship of Medicine and Post-Graduate Medical Association (1, Wimpole Street, W.1) will be given at 11, Chandos Street, Cavendish Square, on July 31st, at 2.30 p.m., on sciatic pain. There will be no lecture on August 7th, but the series will continue on August 14th, with a lecture-demonstration on hysteria. On August 11th, at 3 p.m., at the National Temperance Hospital, Hampstead Road, Dr. H. V. Morlock will give a demonstration on chest cases. Mr. Alan Gairdner will give a short course on the treatment of recent and old fractures, at the St. George-in-the-East Hospital, at 2.30 p.m. each afternoon from August 13th to 17th. Throughout August, daily instruction in various branches of medicine and surgery is provided by the panel of teachers.

The twentieth International Congress on Alcoholism will be held at the Imperial Institute, South Kensington, from July 30th to August 3rd, under the presidency of Lord Astor. The following papers, among others, will be read: "Licensing Legislation in Europe," by Dr. R. Hercod of Lausanne; "Legislation on Inebriety," by Dr. E. Gabriel of Vienna; "Alcohol Consumption and Specific Male Mortality," by Dr. R. Bandel of Nuremberg; "Alcohol in the Treatment of Disease," by Dr. J. D. Rolleston of London; "Alcohol and Eugenics," by Professor H. Gachot of Strasbourg; and "The Causes and Treatment of Inebriety," by Dr. A. E. Carver of Caldecott Hall. National surveys covering the present position of the alcohol problems from educational, economic, medical legislation, and other points of view will be contributed by various speakers, and special addresses will be delivered by Sir William Willcox on the toxicological aspects of alcohol and drug addiction; by Sir George Newman on the teaching of hygiene in schools; and by Dr. H. M. Vernon and Dr. R. Cove-Smith on alcohol in relation to motoring and sport. Membership tickets, price 10s., can be obtained from the Secretariat, Room H, Imperial Institute, S.W.

The first international congress of gastro-enterology will be held at Brussels under the presidency of Dr. J. Schoemaker of The Hague from August 5th to 7th, when the subjects for discussion will be gastritis, introduced by Drs. A. F. Hurst, W. Zweig, Konjetzny, and others, and severe non-amoebic colitis, introduced by Drs. Gallart-Mones, Snapper, Lardennois, Donati, and others.

The eleventh annual conference of the Association of Special Libraries and Information Bureaux is to be held at Somerville College, Oxford, from September 21st to 24th. On the first evening with Sir Charles Sherrington in the chair, Sir Richard Gregory, president-designate, will give an address on "Science in the Public Press." The main discussion will be on "Book Selection for Special and General Libraries." The general secretary of the association is Miss E. M. R. Ditmas, M.A., 16, Russell Square, W.C.1.

The following German congresses will be held in the third quarter of the year: Ophthalmological Society, August 6th to 8th, at Heidelberg; 50th Congress of the Society for Children's Diseases, September 14th to 16th, at Brunswick; 93rd Congress of Natural Scientists and Doctors, September 16th to 20th, at Hanover; Society of Neurologists, September 27th to 29th, at Munich; Society for Industrial Diseases and Accidents, end of September, at Würzburg.

The Minister of Health has appointed an Advisory Committee to consider general questions relating to the administration of town and country planning in England and Wales, and any other related matters which may from time to time be referred by the Minister to the committee, and, as occasion may require, to make recommendations to him. The chairman of the committee is Mr. E. J. Maude, deputy secretary of the Ministry.

The Privy Council, in pursuance of the Pharmacy and Poisons Act, 1933, has appointed Sir Ernley Blackwell, K.C.B., to be chairman of the Statutory Committee of the Pharmaceutical Society.

The American Association for the Advancement of Science has awarded its annual prize to Dr. Reuben L. Kahn, assistant professor of bacteriology at the Michigan Faculty of Medicine and inventor of the reaction which bears his name.

The June issue of *Le Sud Médical et Chirurgical*, the monthly periodical published at Marseilles, is devoted to the surgery of childhood and orthopaedics.

The issue of *Paris Médical* for July 7th is devoted to diseases of nutrition.

Dr. Walter F. Richards of Reading, a member of the British Medical Association, and Mr. Reginald Droop, a medical student at St. Thomas's Hospital, are included in the crew of the *Endeavour*, challenger for the "America's Cup."

The Minister of Health has appointed Mr. C. F. Roundell, C.B.E., of the Ministry of Health, to be a member (vice Mr. N. B. Batterbury) of the Departmental Committee appointed in July, 1933, on the cost of hospitals and other public buildings.

The Italian Red Cross offers two prizes of 2,000 and 500 lire respectively for a monograph on morbidity and mortality from malaria in children in an endemic zone. The work should be sent to the Direzione della Croce Rossa, via Tuscania 12, Rome, before December 31st.

Dr. Friedrich von Müller, professor of internal medicine at Munich, has been nominated doctor *honoris causa* of the Geneva faculty of medicine.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is **18**, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, **7**, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Senile Pruritus

"VRACH" (Cornwall) writes: Can anyone suggest a fruitful line of treatment for an old lady, aged **76**, pestered with senile pruritus? All the described remedies have been tried, more or less without result.

Tennis Elbow

"WESSEX" writes: Can anyone advise me on the treatment of the above condition, which I developed last May after a hard game of tennis? There is swelling and tenderness over the radio-ulnar joint, and pain on flexing forearm, and marked pain on taking a back-hand stroke. Treatment has consisted of firm bandaging over the affected part and the application of iodine.

Spermatorrhoea when Bathing

"M.D., D.P.H." writes: A friend has consulted me regarding his son, aged 21 years. This young man, who is in splendid health and excels at athletics, is unable to bathe, for immediately on entering the water he has an emission of semen. This is the first time I have met such a condition, and I should be grateful for any information as to cause and treatment.

Book Wanted

"W. G. R." would be most grateful if any reader would be prepared to dispose of a copy of Sutherland's *Dispensing Made Easy*. Leading medical booksellers state that the book is out of print.

Income Tax

Motor Car and Rent Allowances

"Glasgow" bought a car for £383 in June, 1929, and sold it in March, 1934, for £52, buying another for £115. He acquired a new practice on July 1st, 1933. The house is assessed at £80; one room is entirely set aside for consulting, and another large room and the hall are used two and a half hours a day. What deduction is due?

*** On a 20 per cent. basis the car bought for £383 in June, 1929, will have depreciated to £157 at July 1st, 1933, and the allowance for the nine months to April 5th, 1934, will therefore be nine-twelfths of 20 per cent. of £157—that is, £23. For the year to April 5th, 1935, the depreciation allowance will be 20 per cent. of £115—that is, £23. As an *expense* of the twelve months to July, 1934, "Glasgow" can deduct the balance of the written-down value (£157−£23=) £134, less the amount received (£52)—that is, £82. With regard to the proportion of the assessment to be treated as a professional expense, one-half seems a little high—possibly £30 would be fair, but of course a lot depends on the actual circumstances.

General Expenses—Proportion

"M. S. R." explains that there is whole-time use of a consulting and a waiting room, and casual use of a drawing room; in addition, a garage has recently been erected—though it is not stated whether the Schedule A assessment has been increased to cover the addition. One maid is kept, and in her absence the practitioner's wife has to assist.

*** It is always difficult to suggest a reasonable ratio where so much depends on circumstances. One-half of the general expenses and one-third of the heating and lighting would seem to be a maximum, and would perhaps be somewhat generous. No deduction can be claimed for the wife's services unless she is actually paid for them.

LETTERS, NOTES, ETC.

Asthma in Childhood

Dr. A. W. DOCKAR (Birmingham) writes: I note with interest the letter by "G. P." (Surrey) on this subject (July 7th, p. 48). I do not think he has cause to be too much dismayed by the result of his treatment. Factors, little understood, still confront us. The results of autogenous vaccine, in my experience, have not been too convincing. They would seem to increase the patient's resistance to infection, but their effect on the "asthmatic diathesis" is questionable. From a series of investigations over a number of years I find that, in the differential leucocyte count, the eosinophil percentage tends to fall during the winter season and to rise during the summer, and more so if the summer be warm and dry for long periods such as we are experiencing now. These variations seem to take place in spite of medicinal and autogenous vaccine therapy, and the inevitable result of a rise in the eosinophil percentage is increased liability to an asthmatic attack. It would seem to me that, in these cases, one is dealing with constitutions biochemically imbalanced and incapable of normal self-adjustment to certain internal and external influences. From investigation of family blood readings I am convinced that this fundamental state is congenital, not acquired—that is, the child derives a familial tendency which, unfortunately, is not often recognized clinically till typical asthma has developed. Perhaps a little more attention to this pre-asthmatic aspect of the subject, with a view to adopting preventive measures early, would prove of inestimable value. In the case of children the asthmatic attack has often prodromata, such as languor, gastric disturbance, etc., readily recognized by intelligent parents. To aid in aborting an attack I immediately recommend an effective purge, followed by total restriction of food for twenty-four hours. Copious draughts of water are given during that period. This seems to give the child a chance of regaining its "metabolic balance," if I should dare to use such a term. Afterwards diet is gradually resumed. I am indebted to Dr. James Adam of Glasgow for much valuable help gleaned from his book on asthma.

A Warning

Messrs. E. H. WEEDON AND CO. (Bow Road, E.3) inform us that an agent recently in their employ, aged about 55-60, has been calling on medical practitioners and veterinary surgeons asking for loans of money (usually 2s. or 2s. 6d.). At present his activities are mostly confined to East and South-East London and Essex.

Corrigenda

In last week's issue, under the heading "Test for Live Birth" on page 142, the word "Fagerlung" should have read "Fagerlund."

The review of *Modern Treatment in General Practice*, published last week at page 118, stated that this book consists of fifty-three chapters; there are in fact fifty-six chapters.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 31, 32, 33, 34, 35, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 36 and 37.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 84.